Municipality/Organization: Town of Hanover, MA

EPA NPDES Permit Number: MA041036

MaDEP Transmittal Number: W-035898

Annual Report Number
& Reporting Period: No. 1: March 03-March 04

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: **Frank Cheverie** Title: **Department of Public Works**

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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: **R. Alan Rugman**

Title: **Board of Selectmen, Chairman**

Date: **April 27, 2004**

Part II. Self-Assessment

In general, the Town of Hanover's stormwater management activities for the first year of the General Permit (March 2003 through March 2004) were in conformance with the Notice of Intent (Massachusetts DEP form BRP WM 08A) and schedule submitted in July 2003. The Town has developed a Stormwater Management Plan with program priorities for 2003-2008 including:

1. Achieving regulatory compliance, particularly EPA and DEP Phase II NPDES permit requirements;
2. Incorporating storm water protection measures into municipal activities;
3. Focusing activities on target pollution reduction (e.g. Section 303.d. waters and protecting the Town's water supply);
4. Ensuring that the Program is current and innovative; and
5. Providing Program administration.

The Water Quality Stewardship element of the program will focus on the protection of the local water supply and addressing the State's Section 303.d waters located within the Town. To this end, staff will continue to develop and improve the Program activities to reduce storm water pollution to the maximum extent practicable and eliminate prohibited non-storm water discharges, while facilitating understanding and involvement in storm water management by various Town departments. Program priorities will also focus on increased efforts to reduce target pollutants and restore local water bodies.

The Town is committed to working with local watershed associations to advance their goals and objectives. Another high priority of staff will be to keep abreast of the latest technology and approaches to achieve storm water management. Program activities will also strive to encourage environmental stewardship and continue to build on partnerships with other agencies, neighboring towns, and the community for active participation in accomplishing the Program mission.

During Permit Year One, the Town focused on preparing a Stormwater Management Plan (dated July 1, 2003); coordination with the Massachusetts Water Abatement Trust and DEP in funding for stormwater management planning and aquifer protection planning activities ($198,000); Geographic Information System (GIS) mapping activities; water quality field screening and testing; reviewing and enforcing current regulations; improving local good housekeeping programs; and communicating the Town's Plan to local watershed associations. This required communication among the various departments in town. The financing of the project was through the Water Abatement Trust State Revolving Fund (SRF) program and was a critical component of the program success. Future scopes of work will be consistent with discussions held with the Massachusetts Department of Environmental Protection SRF

coordinators on March 16, 2004.

The DEP-approved scope of work focuses on GIS mapping and outfall screening and sampling. The Town is in the process of developing a new GIS system based on aerial photography conducted on April 15, 2001. To date the Town has developed 100-scale full planimetric drawings of the Town's features, including receiving waters and watersheds; developed a geodatabase of the storm drain system (including connectivity); and is in the process of overlaying Assessor map data. Following the mapping of outfall pipes in the North River watershed area, the Town focused on the Water Quality Stewardship element of the program and water quality testing. This included:

1. Collecting field data during two sampling events: each event from thirty (30) of the Town's outfall pipes located within the North/Indian Head River watershed areas. The samples were taken during dry (Summer 2003) and Fall 2003 seasons. The Town recently mapped the outfall pipe locations, and the locations and sample designation were shown on a plan provided by Environmental Partners Group Inc. and the field screened for the following:
    a. pH;
    b. Temperature;
    c. Specific Conductance;
    d. Dissolved Oxygen;
    e. Turbidity; and
    f. Escherichia-coli.

2. Laboratory testing of eight water samples that were collected during each of the sampling events (sixteen water samples total). During each sampling event, the samples were collected from the following locations: one (1) from the North River, one (1) from the Indian Head River, one (1) from Third Herring Brook and from five (5) nearby outfall pipes. The samples were accompanied by additional Quality Assurance and Quality Control blanks and duplicates, and were sent to a laboratory and tested for the following constituents:
    a. RCRA 13 Metals (ICP-AES/CVAA);
    b. E-coli (SM 9213B);
    c. Fecal Coliform-MPN (SM 922D/SM 9221E);
    d. Fecal Streptococci-MPN (SM 9230C/SM 9230B); and
    e. Total Coliform (SM 9222B/SM 9221B).

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 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
1	Partnership with local Watershed Associations	Con. Comm., DPW, BOH	Regular Meeting Attendance	Correspondence with the North River Watershed Association (NRWA, Samantha Woods, Exec. Director)	Continued updating, seek alternative funding opportunities (such as 604b and 319 grants in December 2003)
Revised					
2	Develop Brochures	DPW	Quarterly Mailings	Water department mailings and water quality updates.	Continued mailings.
Revised					
3	WEB Site Public Service Postings	IT Dept., DPW	WEB Site Publication & Maintenance	Association information transfer and data publication of data, local WEB updates	Association information transfer and data publication of data, local WEB updates
Revised					
Revised					
Revised					
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 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
4	Water Quality Testing	DPW	2 Rounds of Water Quality Sampling of Priority Water Bodies	Field screening and testing of outfall pipes in the North River watershed area	Land use assessment in the North River watershed area and source identification
Revised					
5	Community Cleanup Days	DPW	Annually	Conducted in Spring 2003	Scheduled for Spring 2004
Revised					
Revised					
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 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
6	Catch Basin/Outfall and Receiving Water Mapping	DPW	GIS Mapping	Water Abatement Trust funds used to complete Storm Drain System Map, ArcView Training	Aerial photography on April 15, 2001 will serve as basis for Assessor Mapping overlay
Revised					
4	Water Quality Testing	DPW	Testing of Priority Water Bodies	Field screening and testing of outfall pipes in the North River watershed area	Land use assessment in the North River watershed area and source identification
Revised					
7	Regulatory Review	DPW, Planning Board, BOH, Con. Comm.	Regulatory Revisions and Action	Compiled a set of consolidated regulations of applicable stormwater and aquifer protection regulations	Finalize consolidated regulations and investigate areas for revisions
Revised					
8	Permit Enforcement	DPW, Planning Board, BOH, Con. Comm.	Local Construction Site Oversight and Enforcement	Ongoing to comply with local bylaws, state and federal requirements.	Ongoing to comply with local bylaws, state and federal requirements.
Revised					
9	Misconnection/Illegal Dumping and Correction	DPW, BOH	Connectivity Mapping, Bylaw Enforcement and Fines	Continued GIS mapping and continued local bylaw enforcement	Complete GIS mapping and continue local bylaw enforcement
Revised					

3a. Additions

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
7	Regulatory Review	DPW, Planning Board, BOH, Con. Comm.	Regulatory Revisions to Bylaws as Necessary	Compiled a set of consolidated regulations of applicable stormwater and aquifer protection regulations	Revisit consolidated regulations and investigate areas for revisions
Revised					
8	Permit Enforcement	DPW, Planning Board, BOH, Con. Comm.	Local Construction Site Oversight and Enforcement	Ongoing to comply with local bylaws, state and federal requirements	Ongoing to comply with local bylaws, state and federal requirements
Revised					
10	Improved As-Built Review	DPW, Planning Board	Electronic As-Built Submittals on Town GIS System	Continued GIS mapping	Complete GIS mapping and develop protocol for submitting as-builts electronically
Revised					
Revised					
Revised					
Revised					

4a. Additions

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 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
7	Regulatory Review	DPW, Planning Board, BOH, Con. Comm.	Regulatory Revisions to Bylaws as Necessary	Compiled a set of consolidated regulations of applicable stormwater and aquifer protection regulations	Finalize consolidated regulations and investigate areas for revisions
Revised					
8	Permit Enforcement	DPW, Planning Board, BOH, Con. Comm.	Local Construction Site Oversight and Enforcement	Ongoing to comply with local bylaws, state and federal requirements	Ongoing to comply with local bylaws, state and federal requirements
Revised					
Revised					
Revised					
Revised					
Revised					

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 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
11	Improved Street Sweepings	DPW	Semi-annual Collections	Semi-annual Collections	Semi-annual Collections
Revised					
12	Improved Catch Basin Cleanings	DPW	Semi-annual Collections	Semi-annual Collections	Semi-annual Collections
Revised					
13	Household Hazardous Waste Days	DPW	Annual Collections	Annual Collection	Annual Collection
Revised					
14	Drain Stenciling	DPW	Aquifer Protection Area	GIS Mapping underway to locate catch basins	Complete GIS mapping and stencil drains in Aquifer Protection Area
Revised					
Revised					
Revised					

6a. Additions

18	Employee Training	DPW	Seminar Attendance	Attended GIS Mapping Seminar Sponsored by Plymouth County Highway Association, ArcView Training for Town Employees	Attend Goodhousekeeping Training Seminar Sponsored by Plymouth County Highway Association

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 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
6	GIS Mapping	DPW	GIS Mapping of Priority Waters and Drainage Patterns	Water Abatement Trust funds used to complete Storm Drain System Map, ArcView Training	Aerial photography on April 15, 2001 will serve as basis for Assessor Mapping overlay
Revised					
4	Water Quality Testing	DPW	Semi-Annual Water Quality Testing	Field screening and testing of outfall pipes in the North River watershed area	Land use assessment in the North River watershed area and source identification
Revised					
15	Stormwater Modeling	DPW	Needs Assessment for Category 5 Water Bodies	Water Abatement Trust funds used to complete Storm Drain System Map, ArcView Training	Aerial photography on April 15, 2001 will serve as basis for Assessor Mapping overlay
Revised					
16	Misc. Structural BMPs as Needed	DPW	i.e. Construction Improvements	None to date (scheduled for Permit Years Three, Four and Five as needed)	To be determined
Revised					
17	Misc. Non-Structural BMPs as Needed	DPW	i.e. Bylaw Enforcement, Fees and Fines	None to date (scheduled for Permit Years Three, Four and Five as needed)	To be determined
Revised					
Revised					

7a. Additions

7b. WLA Assessment

To date, the Town has focused on GIS mapping of the drainage system and receiving waters, as approved by the DEP, and an initial focus on water quality screening and testing from the outfall locations that have been mapped in the vicinity of the North River watershed area. The data findings confirm past conclusions that the North River and its tributaries (i.e. the Indian Head River) are impaired from excessive levels of Total Coliform and e-coli.

A more detailed WLA assessment and Land Use Evaluation will follow.

Part IV. Summary of Information Collected and Analyzed

The Town has reviewed the local, state and federal bylaws relative to stormwater and aquifer protection, and appears to be adequately regulated and in conformance with the Massachusetts Stormwater Management Policy. Minor revisions may be required for informing local project proponents of the Phase II one-acre NPDES requirement.

Outfall mapping and water quality screening/testing conducted to date affirms past conclusions that the North River and its tributaries are impaired. Therefore, the Town is in the process of completing Assessor mapping to determine the public/private impacts to its storm drainage system and may also continue field screening of outfalls for both dry and wet conditions, once the public outfall locations have been determined. The immediate focus will be on the outfall pipes located the watershed areas of the Massachusetts Section 303d water bodies located in Town and within the Town's Aquifer Protection Area along Route 53.

The Town will continue to provide updates to the public through water bill mailings and postings on the local WEB site, and will continue to work with local watershed associations on possible funding sources and ways in which to promote volunteerism.

The Town has taken part in employee training seminars sponsored by the Plymouth County Highway Association and will continue to improve its good housekeeping programs. An employee training seminar has been scheduled by the Plymouth County Highway Association for Summer 2004.

Part V. Program Outputs & Accomplishments (OPTIONAL)

TO BE COMPLETED IN LATER YEARS OF THE PERMIT PROGRAM

Programmatic

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

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	
▪ community participation	(%)	
▪ material collected	(tons or gal)	
School curricula implemented	(y/n)	

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				
▪ Post-Development Stormwater Management				
Accompanying Regulation Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				
▪ Erosion & Sediment Control				
▪ Post-Development Stormwater Management				

Mapping and Illicit Discharges

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

Construction

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

Post-Development Stormwater Management

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

Operations and Maintenance

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

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	

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

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

Anti-/De-Icing products and ratios	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized	(y/n)	
Manual control spreaders used	(y/n)	
Automatic or Zero-velocity spreaders used	(y/n)	
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	
Storage shed(s) in design or under construction	(y/n)	