

TOWN OF ANDOVER, MASSACHUSETTS

JACK PETKUS, P.E.
DIRECTOR



TELEPHONE
(978) 623-8350

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DEPARTMENT OF PUBLIC WORKS

WATER TREATMENT PLANT

397 LOWELL STREET 01810-4416

MAY 4 2009

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April 30, 2009

Glenda Velez
US EPA – CIP
One Congress Street, Suite 1100
Boston, MA 02114

**Re: NPDES Stormwater General Permit
2008-2009 Annual Report
Town of Andover, MA**

Dear Ms. Velez:

Enclosed for your records is the NPDES Stormwater General Permit 2008-2009 Annual Report for the Town of Andover, MA. The Annual Report has simultaneously been filed with the Massachusetts DEP.

If you have any questions or require any additional information, please do not hesitate to call me at 978-623-8350 ext. 520 or our Consultant, Rebecca Balke with Comprehensive Environmental Inc. at (800)725-2550 ext. 308.

Sincerely,

Town of Andover, Massachusetts

Brian Moore, P.E.
Town Engineer

cc: Massachusetts Department of Environmental Protection, Worcester Office
Rebecca Balke, Comprehensive Environmental Inc.

Enclosure – NPDES Phase II Small MS4 General Permit 2008-2009 Annual Report



TOWN OF ANDOVER, MASSACHUSETTS

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DEPARTMENT OF PUBLIC WORKS

WATER TREATMENT PLANT
397 LOWELL STREET 01810-4416

April 30, 2009

Mr. Frederick Civian
Stormwater Coordinator
Massachusetts Department of Environmental Protection
One Winter Street, 6th Floor
Boston, MA 02108

**Re: NPDES Stormwater General Permit
2008-2009 Annual Report
Town of Andover, MA**

To Whom It May Concern:

Enclosed for your records is the NPDES Stormwater General Permit 2008-2009 Annual Report for the Town of Andover, MA. The Annual Report has simultaneously been filed with the U.S. Environmental Protection Agency.

If you have any questions or require any additional information, please do not hesitate to call me at 978-623-8350 or our Consultant, Rebecca Balke with Comprehensive Environmental Inc. at (800)725-2550 ext. 308.

Sincerely,

Town of Andover, Massachusetts

Brian Moore, P.E.
Town Engineer

cc: U. S. Environmental Protection Agency, Boston Office
Rebecca Balke, Comprehensive Environmental Inc.

Enclosure – NPDES Phase II Small MS4 General Permit 2008-2009 Annual Report



Municipality/Organization: Town of Andover

EPA NPDES Permit Number: MAR041178

MaDEP Transmittal Number: W-041021

**Annual Report Number
& Reporting Period: No. 6: May 1, 2008-April 30, 2009**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Reginald Stapczynski

Title: Town Manager

Telephone #: (978) 623-8350

Email:

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: _____

Reginald S. Stapczynski

Printed Name: Reginald Stapczynski

Title: Town Manager

Date: _____

4/29/09

Part II. Self-Assessment

The Town of Andover has completed the required self-assessment of the annual compliance review for the Phase I Program. In accordance with the NPDES Phase II Stormwater requirements, the following topics were evaluated for the Annual Report:

1. Compliance with the Phase II Permit Conditions
2. Appropriateness of the Selected BMPs
3. Progress Towards Achieving the Program's Measurable Goals
4. Results of Any Information that has been Collected and Analyzed
5. Activities for the Next Reporting Cycle
6. Changes in Identified BMPs or Measurable Goals

The Town has determined that our municipality is in compliance with all permit conditions.

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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
1A Revised	Develop Stormwater Section of Town Website	Dept. of Public Works/Engineering Dept., Water Dept, and Town Website Manager(s)	Measure number of hits over permit term.	links to the Stormwater Management webpage “Fish Brook Catchment Basin Case Study” and “Greenscapes” were added to the website. There were 3,404 visitors to the stormwater section of the Town website this period.	Measure hits to the website. Continue to add pertinent links.
1B Revised	Distribute Brochures and Fact Sheets to Businesses and Residents	Department of Public Works/Engineering Dept., and Water Dept.	Number of articles and copies of materials.	A section on Stormwater Management was included in “Recycling and Trash Collection Guide for Residents” which was mailed to 11,000 residents in June 2008. All users received a copy of Greenscapes Guide 2008; Press Releases and articles were placed in the Andover Townsman and Eagle Tribune to publicize the program; information was also placed at Town Hall. Town events were held on 4/21 & 4/27 to distribute Greenscapes 2009-10 Yard Care Calendars and information. 45 minute “Spring is Time for Greenscaping” presentations were held on 4/21 & 4/27. Fact sheets and brochures were distributed at a series of Lunch & Learn presentations over a one week period at the IRS Facility; this was requested by a significant water user in Town.	Continue mailings. Town event to be held on 5/2/09 to distribute Greenscapes 2009-10 Yard Care Calendars and information. A 45 minute “Spring is Time for Greenscaping” presentation will be held on 5/2/09. Continue Press Releases and articles in the Andover Townsman and Eagle Tribune to publicize the Greenscapes Guide program.

1C	Submit Advertisements/Articles on Stormwater Protection for Local Newspaper	Department of Public Works/Engineering Dept., and Water Dept.	Clippings of articles and advertisements printed in local newspaper.	An article announcing the participation in GreenScapes Program, workshops, and other information was published in the Andover Townsman on May 22, 2008. An Open Space Plan has been started with help from the citizens which will include watershed & stormwater information.	Continue to inform residents of upcoming activities under the participation and involvement program. Use information from brochures and fact sheets for articles and direct the public to the stormwater section of the Town website. Complete the public group Open Space Plan.
Revised					

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
2A	Establish a Pesticide Reduction Task Force (PRTF)	Committee of Town Staff, League of Women Voters, and Residents	Copies of mailers, meeting minutes, list of attendees.	The Task Force no longer exists as it was joined with the Fish Brook Initiative, which is now known as the Fish Brook Watershed Advisory Committee (FBWAC), however Pesticide Use Policy is in effect and continues to be posted on the Health Division Website	Continue holding meetings/workshops and encouraging new residents and business owners to attend. (See also BMP 2E)
Revised					
2B	Establish a Stormwater Telephone Hotline	Department of Public Works/Engineering Dept, Water Dept., and Town Website Manager(s)	Record number of phone calls to hotline, copies of articles.	The Town Directory on the Town website directs phone calls to the appropriate department to be addressed. Two calls have been received and logged; appropriate actions were taken and logged as part of the process.	Continue to log complaints and actions taken.
Revised	Establish a Procedure to Receive Calls		Record number of calls to each Department		

2C	Establish Classroom Education/Field Trip Program	Department of Public Works/Engineering Dept. Water Dept., and Education Department	Field Trip Curriculum, # of field trips organized each year.	Educational tours of the Water Treatment Plant are given year round where stormwater issues are incorporated. As part of a Boston College summer project, students studied the impact of road salt applications within the Fish Brook Basin.	Continue to visit classrooms and hold annual field trips for science classes to visit the Town's water treatment plant. Encourage class projects and activities related to stormwater issues.
Revised					
2D	Install Storm Drain Markers or Stencils	Department of Public Works/Engineering Dept, Water Dept., and Volunteers	50% of storm drains marked by year 5 with door hangers placed in associated neighborhoods.	Storm drain markers were installed at 1,135 catch basins around the Town. 900 door hangers were also distributed throughout Town. Approximately 70% of catch basins have been marked to date.	Continue marking storm drains throughout the watersheds and refresh markers as needed.
Revised					
2E	Work With Watershed Organizations to Incorporate Stormwater Information into Their Programs	Department of Public Works/Engineering Dept, Water Dept., and Conservation Commission	Document quarterly meeting topics. Agenda, meeting notes, and attendance sheets.	The Fish Brook Watershed Advisory Committee (FBWAC) meets regularly to oversee protection of Fish Brook Priority sub basin. They also discuss and mitigate stormwater and other watershed initiatives. The Town participated as a sponsor community for the 2008 Greenscapes program. The program included a 20-page mailing to all residents and workshops. The Conservation Director has partnered with the Shawsheen River Watershed Assoc. to locate potential sedimentation outfalls on the Shawsheen River and volunteers actively check and report areas of non-compliance to Conservation staff.	Continue working with local watershed groups and residents to discuss stormwater concerns.
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term

3A Revised	Develop Primary Town Storm Drain System Map	Department of Public Works/Engineering Dept., Consultant	90% of system mapped on GIS.	90% of the drainage system was mapped during permit year 1 using existing plans.	No further activity is required for this task.
3B Revised	Complete Storm Drain System Map	Department of Public Works/Engineering Dept., Consultant	Outfalls map completed.	Field verification of outfalls is ongoing to update the GIS base map. An additional 63 outfalls were found; the outfall map was revised to reflect actual field conditions.	The system map will be updated accordingly as new drainage systems are constructed in new developments.
3C Revised	Develop Illicit Discharge Prohibition Ordinance	Planning Board, Board of Health, and Selectmen	Obtain authorization to control inputs to the municipal drainage system.	Illicit Discharge Rules and Regulations were adopted by the Board of Health on July 9, 2007.	Completed.
3D Revised	Develop Illicit Discharge Detection and Elimination Plan and Implement Activities	Department of Public Works/Engineering Dept., Water Dept., Board of Health, and Consultant	All outfalls examined. Sources traced and results documented within one year of discovery.	IDDE plan was established in permit year 1. An additional 63 outfalls were found and inspected this permit term (year 6) 14 of those were flowing; 3 were sampled and no bacteria was found present; 11 remain to be sampled. 14 previously inspected outfalls were monitored; 8 were monitored and showed no further high bacteria counts; 2 sources were eliminated by Town; 1 source eliminated by owner; and 3 still show high bacteria counts; work was performed to replace sewer and drain lines at one of these 3 location,, however the followup sampling still show high bacteria, also 3 homes remain to be dye tested in an effort to eliminate the illicit discharge source.	Continue conducting outfall inspections to find the remaining 30 outfalls and looking for signs of illicit discharges in priority subwatersheds. Seek sources of discovered illicit discharges one by one and work towards elimination. Continue to contact the other 3 homes through mailings until a response is received, and contact Health Dept. if enforcement is required, and continue to seek the location of and elimination of remaining sources. as additional funds become available

3E Revised	Incorporate Information on Illicit Discharges into Public Education and Outreach Topics	Department of Public Works/ Engineering Dept., Water Dept., and Board of Health	Copies of materials.	The Fish Brook Watershed Advisory Committee is currently reviewing changes to the Fish Brook Watershed Bylaw in anticipation of sending the changes to Town Meeting in 2009.	Continue incorporating information on illicit discharge into public education and outreach topics. Due to the number of tasks assigned to the Committee, this will be addressed as soon as possible.
3F Revised	Setup and Advertise a Hotline for Illicit Discharges Establish a Procedure to Receive Calls	Department of Public Works/ Engineering Dept., and Board of Health	Log of complaints and actions taken.	A call regarding a sewer gas odor was received and logged as part of the telephone hotline. Appropriate actions were taken and logged as part of the process.	Continue to log complains and actions taken.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
4A Revised	Develop Erosion Control Bylaw	Planning Board and Selectmen	Bylaw at Town meeting by year 3.	The Stormwater Management & Erosion Control Bylaw was adopted at the 2008 Annual Town Meeting. The Planning Board adopted the accompanying Stormwater Management Rules and Regulations in February of 2009.	Completed.
4B Revised	Establish a Procedure for the Receipt of Information Submitted by the Public	Planning Board and Department of Public Works/ Engineering Dept.	Record number of phone calls, copies of articles.	Two calls were received and logged as part of the telephone hotline. 1 call regarding a sewer gas odor; 1 call regarding maintenance of a BMP prior to transfer to HOA. Appropriate actions were taken and logged as part of the process. (Also see BMPs 2B & 3F)	Continue to log complains and actions taken.

4C	Develop Guidance for Erosion Controls & Conduct Inspections	Planning Board, Dept of Public Works/ Eng Dept., Conservation Commission, & Consultant	Inspection checklist and documented inspections.	The Stormwater Management & Erosion Control Regulations provide specific guidelines of erosion controls and inspections along with annual reporting. All projects must include a plan showing sedimentation controls conforming to state and town regulations and be approved by Andover Conservation. Plan must be recorded at the Registry of Deeds	Completed.
Revised					

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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
5A Revised	Develop BMP Bylaws	Planning Board	Bylaw at Town meeting by year 3.	The Stormwater Management & Erosion Control Bylaw was adopted at the 2008 Annual Town Meeting. The Planning Board adopted the accompanying Stormwater Management Rules and Regulations in February of 2009.	Completed.

5B	Develop and Implement Inspection Program	Planning Board, Department of Public Works/ Engineering Dept., Conservation Commission, Selectmen and Consultant	Copies of maintenance reports received annually, plus records of inspections completed and results.	For every Homeowners' Association documented by the Planning Division a comprehensive file has been put together to track the inspections and maintenance of Homeowners' Associations. Reminder letters were sent to HOA members in July 2008 and 3 responses were received. Post construction areas must conform with conservation standards for storm water control before a Certificate of Compliance is issued. Non complying sites may be subject to enforcement. Recent enforcement has resulted in the phased installation of a stormceptor, temporary and permanent sedimentation controls at a parking lot adjacent to the Shawsheen River. Other permanent controls are planned for the entire site within 3 years.	Follow-up meetings and reminder letters to the Homeowners' Associations will be necessary on a yearly basis to ensure that the drainage areas are being inspected and maintained and Operation and Maintenance Plans are being followed.
Revised					
5C	Develop BMP Design Standards	Planning Board, Dept of Public Works/ Eng Dept., Conservation Commission, & Consultant	Copy of draft bylaws.	Design standards consistent with the Stormwater Management Handbook have been adopted within the Stormwater Management & Erosion Control Regulations adopted in February 2009.	Completed.
Revised					

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6	Planned Activities – Next Permit Term
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		Name			(Reliance on non-municipal partners indicated, if any)	
6A	Sweep Streets in Town	Department of Public Works/Highway Division	Priority plan of sweeping based on water quality impact.		All streets are swept in Town at least annually. Most streets are swept more than once.	Continue street sweeping program.
	Revised					
6B	Clean Catch Basins	Department of Public Works/Highway Division and Consultant	Records of cleaning, inspections and maintenance.		1,841 catch basins were cleaned during this year. A request has been made for additional resources. Remaining catch basins will be cleaned when resources are available. As many catch basins as possible were cleaned during this period. Catch basins that need to be cleaned on a more frequent basis have been identified.	Continue to clean all catch basins in Town at least once every two years and modify cleaning frequency as needed.
	Revised					
6C	Develop and Implement an Inspection and Maintenance Plan	Department of Public Works/Highway Division, Plant and Facilities Dept., Water/Sewer Dept.	Written policy. Records of inspections and maintenance.		The Department of Public Works/Highway Division and the Engineering Dept. are working together to develop a tracking system for the inspection and maintenance. Inspections and maintenance are performed and procedures are modified as necessary. All Plant and Facilities Dept. oil/water separators have been inspected and those in need of cleaning are scheduled for July 09 when funds are made available. DPW separators have also been inspected and cleaning will also be scheduled when funds are made available.	Complete written inspection/maintenance schedule for structural BMPs throughout Town. Continue to perform inspection and maintenance of BMPs and catch basins and modifying frequency as necessary. Develop an in-house policy for disposing of maintenance-generated wastes. Clean oil/water separators in July 09
	Revised					
6D	Berm Sand/Salt Pile and Evaluate Options for Protection	Department of Public Works/Highway Division	Records of modifications, including photos.		Shed was constructed in permit year 1 to store sand/salt pile from runoff. No further action is needed.	No further action is required.
	Revised					

6E	Store Paving Tools and Equipment Indoors	Department of Public Works/Highway Division	Designated indoor storage area. Record of Memo.	Most paving tools and equipment are stored indoors in designated areas. Some trucks are being parked outdoors due to lack of space indoors.	Establish way to store all paving tools and equipment indoors.
Revised					
6F	Rinse Marking Paint Buckets to the Sanitary Sewer System and Store Buckets Indoors	Department of Public Works/Highway Division	Designated indoor storage area. Record of Memo.	All marking paint buckets are rinsed to the sanitary sewer system and stored indoors.	Continue to rinse all marking paint buckets to the sanitary sewer system and store indoors.
Revised					
6G	Implement BMPs to Reduce Sediments Entering the Drainage System	Department of Public Works/Highway Division	Records of sweeping and inspection records.	The paved roadway and catch basins at the DPW Yard were frequently swept/cleaned. Catch basins cleaned on a schedule and as needed/able.	Continue to sweep the paved roadway and clean the catch basins at the DPW Yard on a frequent basis.
Revised					
6H	Bring Floor Drain System at the Water/Sewer Building into Compliance	Department of Public Works/Engineering Dept.	As-built sketches.	Floor drain was brought into compliance in permit year 1.	No further action is required.
Revised					
6I	Bring Floor Drain System at the Vehicle Maintenance Building into Compliance	Department of Public Works/Engineering Dept.	As-built sketches.	Floor drain was brought into compliance in permit year 1.	No further action is required.
Revised					
6J	Wash Vehicles in Accordance with DEP Regulations	Department of Public Works/Highway Division	Record of Memo.	Vehicles are washed indoors to floor drains that discharge into an oil/water separator and the sanitary sewer system.	Continue washing vehicles indoors.
Revised					
6K	Implement Stormwater BMPs at the Fueling Station	Plant and Facilities Dept. and Consultant	Repair Records. Better housekeeping for small spills. As-built sketches or plans. Record of memo.	A fully stocked spill kit and disposal containers are maintained onsite to clean up future leaks. Any waste will be disposed of properly.	Continue to keep fully stocked spill kit and disposal container on-site to clean up any future leaks and to dispose of wastes properly.
Revised					

6L	Develop an Inspection and Maintenance Program for the Liquid Calcium Chloride (CaCl) ASTs.	Department of Public Works/Highway Division	Inspection and Maintenance Plan. As-built sketches or action taken. Record of memo.	An inspection and maintenance plan and procedures for handling significant leaks and spills were completed in permit year 2. The equipment is maintained as needed and no incidents have occurred at the storage location.	Continue program.
Revised					
6M	Implement BMPs at the Ledge Road Landfill	Department of Public Works	Complete landfill cap.	A comprehensive site assessment (CSA) was performed, as well as the semi-annual groundwater & air sampling. Immediate response actions were completed and the Human Health Assessment data was sent to MassDEP for review. However the review process is taking longer than anticipated. Voters approved a \$1.34M construction bond at the Annual Town Meeting.	An extension of Town deadlines has been requested, and the Town has reapplied for the SRF Loan for 2010.
Revised					
6N	Provide Additional Slope Stabilization at the Snow Dump and Storage Location	Department of Public Works/Engineering Dept. and Highway Division	As-built sketches or plans and photos.	Completed in permit year 1.	No additional work is needed.
Revised					
6O	Ensure Compliance for Floor Drains and Vehicle Washing Activities at the West Fire Station	Plant and Facilities Dept. and Fire Dept.	Sketches or inspection memos. Record of memo.	Continued washing vehicles indoors.	Continue to prohibit outdoor vehicle washing and wash vehicles indoors.
Revised					
6P	Ensure Compliance for Floor Drains and Vehicle Washing Activities at the Ballardvale Fire Station	Plant and Facilities Dept. and Fire Dept.	Sketches or inspection memos. Record of memo.	Continued washing vehicles indoors.	Continue to prohibit outdoor vehicle washing and wash vehicles indoors.
Revised					

6Q Revised	Wash Vehicles at the Approved Vehicle Wash Area at the Police Station (Public Safety Building)	Plant and Facilities Dept. and Police Dept.	Record of memo.	Continued washing vehicles at approved wash areas. Outdoor vehicle washing is prohibited.	Continue to wash all vehicles indoors at approved vehicle wash areas.
6R Revised	Prohibit Vehicle Washing at the Cemetery Buildings	Plant and Facilities Dept. and Fire Dept.	Record of memo.	Continued washing vehicles at approved wash areas. Vehicle washing at the Cemetery Buildings is prohibited.	Continue washing vehicles at approved sites.
6S Revised	Rinse Marking Paint Buckets to the Sanitary Sewer System at the Park Shop	Plant and Facilities Dept. and School Dept.	Record of memo.	Continued rinsing all marking paint buckets to the sanitary sewer system.	Continue rinsing all marking paint buckets to the sanitary sewer system.
6T Revised	Ensure Compliance with SPCC Plans for the West, Shawsheen, and Bancroft Elementary Schools	Plant and Facilities Dept. and School Dept.	Record of inspections and activities in accordance with the plan.	Continued inspecting facilities in accordance with the SPCC Plans.	Continue inspecting facilities in accordance with the SPCC Plans.
6U Revised	Use IPM Program for Application of Pesticides in Town	Plant and Facilities Dept.	Copy of "Chapter 85 of the Acts of 2000".	Continued Integrated Pest Management (IPM) Program for application of pesticides (herbicides and insecticides) and fertilizers on Town-owned lands. Abided by the rules contained in Commonwealth of Massachusetts Chapter 85 of the Acts of 2000 (an act protecting children and families from harmful pesticides). Using the IPM, the Mosquito Control Plan is updated annually through a contract with a regional mosquito control board.	Continue Integrated Pest Management (IPM) Program

6V	Use Licensed Applicators for Fertilizers and Pesticides in Town	Plant and Facilities Dept	Record quantities of fertilizers and pesticides purchased annually.	Continued to use licensed applicators to apply fertilizers and pesticides in Town.	Continue to use licensed applicators to apply fertilizers and pesticides in Town.
Revised					
6W	Store Road Salt Under Cover and Clean Loading Area	Department of Public Works/Highway Division	Minimize stormwater contact with salt.	Stored all road salt materials under cover at the DPW Facilities Plant and Yard and cleaned loading area on a regular basis.	Continue to store all road salt materials under cover at the DPW Facilities Plant and Yard and clean loading area on a regular basis.
Revised					
6X	Use Low Salt Applications at Designated Areas	Department of Public Works/Highway Division	Use less salt within the Haggetts Pond watershed, as demonstrated with application rate.	Deicing practices modified to reduce salt application within Haggetts Pond watershed for water supply protection. FBWAC continued to work with MHD and lawmakers to relocate the salt storage facility. 2 additional microwells installed (9 total) around the drinking water reservoir to monitor deicing contaminants. Installed continuous monitoring devices in Merrimack River to monitor and trend water quality. As part of a Boston College summer project, students studied the impact of road salt applications within the Fish Brook Basin.	Continue to use low salt applications in the Haggetts Pond watershed for water supply protection.
Revised					
6Y	Ensure Proper Waste Disposal in Town for Hazardous and Special Wastes	Department of Public Works and Consultant	Document quantity of wastes collected annually.	Hazardous household wastes and electronics waste were collected at drop-off events. <ul style="list-style-type: none"> Household hazardous waste collection event was held on 5/10/08. Two collection events for cathode ray tubes (CRTs), batteries, and electronic equipment were held on 6/7, and 9/20 – 71.24 tons collected. 	Continue to ensure proper waste disposal in Town for hazardous and special wastes as conducted in the past.
Revised					

6Z	Revised	Ensure Compliance for Snow Disposal in Town	Department of Public Works/Highway Division	Utilize designated snow disposal location.	Continued existing practices for snow disposal activities in Town to ensure surface water quality protection.	Continue existing practices for snow disposal activities in Town to ensure surface water quality protection.
6AA	Revised	Conduct Town Employee Stormwater Training	Town Manager, Department of Public Works, Plant and Facilities Dept., Police and Fire Dept. and Consultant	Attendance sheet and copy of program.	A training seminar for DPW employees was held on 4/24/09 for good housekeeping practices. DPW employees received training on erosion/sedimentation control at various work sites.	Conduct refresher training.

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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
7A	Develop a Water Quality Strategy for 303d Waters	Town Engineer & Consultant	Summary of pollution prevention efforts, future needs, and responsible parties. Copy of surface water quality strategic plan.	The Town discussed developing a strategy to meet the TMDL considering existing actions under the Phase II stormwater management program and available resources. The next steps for developing a water quality strategy are pending the reissuance of the Phase II Permit.	Review the pending Phase II Permit and develop an implementation strategy to meet the TMDL that considers the goals of the TMDL, available resources, actions currently being undertaken by Andover and actions by others under the MA DEP RIA Permit.
7B	Implement BMPs from Water Quality Strategy	Town Engineer, Consultant, & Town Departments (to be determined)	Photographs, logs, and BMP descriptions for completed efforts and water quality improvements.	Progress on this BMP will follow the progress made on BMP ID #7A.	Progress on this BMP will follow the progress made on BMP ID #7A.

7b. WLA Assessment

A TMDL was completed for the entire Shawsheen River Basin for pathogens only. The following waterbodies were included in this TMDL and are listed on the 303d list as impaired due to pathogens:

- 1) Unnamed Tributary (8349105)- Also known as Pinnacle Brook- from a small wetland east of Route 93, Andover to the confluence with Meadow Brook in Tewksbury.
- 2) Unnamed Tributary (8349030)- Also known as Fosters Brook- from the outlet of Fosters Pond through River Street Pond to the confluence with the Shawsheen River at Lowell Junction Pond in Andover.
- 3) Rogers Brook from the Outlet of first unnamed pond to the confluence with the Shawsheen River in Andover.
- 4) Shawsheen River from the confluence with Spring Brook in Bedford to Central Street in Andover.
- 5) Shawsheen River from Central Street to the confluence with the Merrimack River in Lawrence.

The TMDL Report set a WLA for fecal coliform standard of 200 organisms/100 ml per outfall. The report also points out that outfalls from Roger's Brook will need a 89.5% reduction in coliform to reach the standard of 200 organisms/100ml at each outfall. To meet these standards the Report suggests the following measures, many of which are already included in Andover's Stormwater Management Plan:

- 1) Implement an illegal connection identification and removal program.
- 2) Collect additional monitoring data to isolate coliform sources.
- 3) Implement more intensive "good housekeeping" practices.
- 4) Assess water quality in response to implementation activities.

Part IV. Summary of Information Collected and Analyzed

Building from Permit Year 5's findings, two illicit discharges were found and eliminated, which eliminated the need to investigate 6 of the remaining 11 homes on the list. A sanitary sewer service was found to be tied into the drainage system at 16 Timothy Drive. This service was removed from the drainage and connected into the sanitary sewer. An illicit discharge connection from a basement sink and washing machine was found to tie into a catch basin through the use of dye testing and sampling. A letter was sent to the owner and the illicit connection was removed. Of the 5 remaining homes, 2 allowed dye testing and found no illicit connections, 3 still remain to be tested.

Locations and physical descriptions of about 1003 outfalls have been gathered since the beginning of the program, including 63 additional outfalls in year 6. Copies of all educational materials and memos distributed have been kept on file. Meeting memos and phone logs have also been kept on file.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	No
Annual program budget/expenditures	(\$)	\$57,555

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	95%
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 (including collection events for cathode ray tubes (CRTs), batteries, and electronic equipment)		
<ul style="list-style-type: none"> ▪ days sponsored ▪ community participation ▪ material collected 	(#) (%) (tons or gal)	3 71+ tons
School curricula implemented	(y/n)	Yes

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

Mapping and Illicit Discharges

Outfall mapping complete	(%)			95%
Estimated or actual number of outfalls	(#)			1033
System-Wide mapping complete	(%)			95%
Mapping method(s)				
▪ Paper/Mylar	(%)			
▪ CADD	(%)			
▪ GIS	(%)			
Outfalls inspected/screened	(# or %)			1003
Illicit discharges identified	(#)			7 since Permit Year 1
Illicit connections removed	(#)			6 since Permit Year 1
% of population on sewer	(est. gpd)			55%
% of population on septic systems	(%)			45%

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)	Once every 2 years
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	Once every 2 years
Total number of structures cleaned	(#)	1,841 this permit term
Storm drain cleaned	(LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	
Disposal or use of screenings (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)	1/year
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	1/year

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) Yes
Storage shed(s) in design or under construction	(y/n)