Town of Wenham
Highway Department
91 Grapevine Road
Wenham, MA 01984

DPW Director
Bill Tyack
TEL: 978-468-5530 FAX: 978-468-1009

P. 6/1/08

May 30, 2008

Ann Herrick - CIP
United States Environmental Protection Agency – Region 1
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Re: National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)

Annual Report for Town of Wenham (Permit Year 5)

Permit Number: MAR041230

Dear Ms. Herrick:

Please find the enclosed Annual Report for Permit Year 5 for the Town of Wenham, Massachusetts. This report is submitted pursuant to the requirements of EPA's "National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems" issued May 1, 2003.

Very truly yours,

TOWN OF WENHAM, MASSACHUSETTS

Jeff A. Chelgren
Town Administrator

Enclosures

cc: Mr. Bill Tyack – Director of Public Works, Town of Wenham

P 6/1/08

Municipality/Organization: Town of Wenham, Massachusetts

EPA NPDES Permit Number: MAR041230

MassDEP Transmittal Number: **W-**

Annual Report Number & Reporting Period: **April 1, 2007 – March 31, 2008**

NPDES PII Small MS4 General Permit Annual Report
(Due: May 1, 2008)

Part I. General Information

Contact Person: Bill Tyack Title: Director of Public Works

Telephone #: (978) 468-5530 Email: btyack@wenhamma.gov

Mailing Address: 91 Grapevine Road, Wenham, MA 01984

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: Jeffrey A. Chelgren

Printed Name: Jeffrey A. Chelgren

Title: Town Administrator

Date: May 27, 2008

Part II. Self-Assessment

The Town of Wenham has completed the required self-assessment and determined that our municipality is in compliance with the permit conditions, except for the Town failed to submit the Year 5 annual report on or before May 1, 2008. The town was waiting for action on the stormwater bylaw (BMP #3c) before submitting the annual report. The town has finished or is in the final stage of completion on all of the goals listed in Part III of this permit.

The town has continued the process of replacing older non-BMP style catch basins (CBs) with new deep sump CBs, and the Public Works had a budget of approximately $25,000 for replacements for the past Permit Year 5. The Public Works Department replaced five non-BMP style catch basins (CBs) with new deep sump CBs. Additionally, the Public Works Department has budgeted approximately $25,000 for further replacements during the upcoming Permit Year.

All of the catchbasins in town were inspected (approx. 500). Where significant dry-weather flows were observed (three outfalls), the effluent from the stormwater outfall was sampled during a dry-weather event (72-hours of less than 0.1-inches of precipitation). The effluent samples were taken to a laboratory to test for contaminates typically found in illicit connections (ammonia, surfactants, fecal coliform and *E.coli*). No contamination was found in any of the three tested outfalls. A copy of the summarized results of this testing is enclosed in this permit submission.

To date all of the drainage structures have been located in the field, inventoried using Global Positioning System (GPS), and photographed.

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 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1A	Brochures/Fact Sheets	Public Works Department	Develop & distribute to all residents in water bill.	Informational fliers were distributed at the Fall 2007 Town Meeting.	The informational fliers will be distributed again at Town Meeting.
Revised					
2A	Storm Drain Stenciling	Public Works Department	Stencil storm drains at various locations around schools.	Stenciling of the storm drains continued in year 5. To date approximately 80% of the Town owned storm drains have been stenciled.	Storm drain stenciling to continue. Expecting similar results to the past year.
Revised					
3A	Develop web site	Public Works Department	Develop a public informational website.	Continued updating and maintaining the online GIS system of outfalls and stormdrain infrastructure. Continued the process of linking digital pictures of CBs and outfalls to the online GIS system.	To date all of the Town identified drainage structures have been located in the GIS system. The Town will continue updating, maintaining, and linking pictures to the online GIS system.
Revised					
4A	Implement stormwater hotline	Public Works Department	Create a hotline that residents may use for information/reporting problems.	There were no calls from residents to the DPW about stormwater issues in the past year. If any calls about stormwater issues are received they are routed to the appropriate people at the Public Works/Highway Department.	Continue to inform residents of the proper town offices to contact if they need information or to report problems dealing with stormwater issues. Logs will be kept with information on the calls received and the actions/responses performed.
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 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1B	Storm drain stenciling	Public Works Department	Public information.	Stenciling of the storm drains continued in year 5. To date approximately 80% of the Town owned storm drains have been stenciled	Storm drain stenciling to continue. Expecting similar results to the past year.
Revised					
2B	Household hazardous waste collection	Public Works Department	Annual collections to promote a cleaner environment.	None – next scheduled collection day is for next permit year.	A household hazardous waste drop off day for residents is currently scheduled in September 2008.
Revised					
3B	Community cleanup	Public Works Department	Schedule community cleanup days to promote community awareness.	A community cleanup of Pleasant Pond took place in June 2007.	Pleasant Pond community cleanup days are scheduled annually every June. Additional community cleanup days for the Miles River are in discussion.
Revised					
4B	Adopt a storm drain	Public Works Department	Have individuals/ groups cleanup storm drains to promote public awareness.	During permit year 5 advertisements on cable access television were run asking for volunteers. No community groups have shown interest in participating in the adopt-a-storm drain program.	Continue to run advertisement for volunteers on cable access television. Inquire with local Eagle Scouts if they have interest in program.
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 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1C	Mapping	Public Works Department	Mapping catchbasins & outfalls with GIS/GPS.	All drainage structures have been field located, inventoried and mapped using GIS. A total of 199 outfalls, 615 catchbasins and 114 drainage manholes have been mapped on GIS. The total town wide stormwater infrastructure mapping is approximately 97% complete.	Finalize the correct locations of the stormwater drain pipes connecting the GPS located structures.
Revised					
2C	Identify problem areas	Public Works Department	Inspection of outfalls in dry/wet conditions to determine illicit connections.	Continued inspections of CBs during annual CB cleanings. Where significant dry-weather flows were observed (three outfalls), the effluent from the stormwater outfall was sampled during a dry-weather event. The samples were taken to a laboratory to test for typical contaminates found in illicit discharges (ammonia, surfactants, fecal coliform and *E.coli*). No contamination was found in any of the 3 tested outfalls. A copy of the summarized results of this testing is enclosed in this permit submission.	Continue to inspect the catchbasins and outfalls during cleanings for signs of illicit connections. Where signs of illicit connection are observed, samples will be taken of the outfall discharge and will be analyzed for typical illicit connection contaminates.
Revised					

3C	Develop regulations/fines	Public Works Department	Submit a town ordinance to be voted on to establish regulation/fines for illicit discharges.	Ordinance was drafted governing the regulations and fines for illicit discharges to the municipal stormdrains. The ordinance was presented and passed during the May 3, 2008 Town Meeting. The ordinance is currently being reviewed for approval by the Attorney General.	Once the ordinance is approved by the Attorney General the regulations and fines will be enforced by the Town.
Revised					
4C	Elimination of illicit discharge	Public Works Department	Perform smoke testing on drainage systems to determine/eliminate illicit discharges.	No smoke testing occurred during the past year because no illicit discharges were observed either during the inspections of the stormdrains, or the laboratory sampling of the dry-weather flowing outfalls.	Any suspected illicit discharges noted during the CB/outfall inspections by the Public Works/Highway Department will be smoke tested to determine/eliminate the source of the discharges. Discuss internally developing a registration program for residential sump pumps to ease in the locating of possible illicit discharges.
Revised					
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 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1D	Ordinance/regulatory mechanism for development	Public Works Department & Planning Board	Limiting stormwater run-off.	The town has reviewed and amended their existing regulations to include provisions for construction site stormwater runoff controls.	The town will use and enforce their recent regulation revisions covering construction site stormwater runoff control.
Revised					
2D	Site plan review	Public Works Department, Conservation & Planning Board.	Limiting storm water run-off.	All proposed construction projects will have to be reviewed and signed off on by the Public Works Department and by the appropriate town committees (Planning Board/Conservation Commission).	The Public Works Department and by the appropriate town committees (Planning Board/Conservation Commission) will continue to review all proposed plans for new/re-development in the town.
Revised					
3D	Site inspection	Public Works Department	Compliance with newly adopted ordinance.	Site inspections performed by the Public Works Department and by the appropriate town committees (Planning Board/Conservation Commission).	The Public Works Department and by the appropriate town committees (Planning Board/Conservation Commission) will continue to perform site inspections for new/re-development in the town.
Revised		Public Works Department/Town Boards.			
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 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1E	Develop structural / non structural BMP's	Public Works Department	Reduce pollutants.	Five non-BMP style CBs were replaced with new deep sump CBs. The town implemented a rain barrel program and sold 21 rainbarrells to residents.	The town again obtained a grant from MADEP to provide rain barrels to residents at a discounted price. The rain barrels are currently for sale on the town's website. The Public Works Department will continue to promote the use of infiltration BMPs for new/re-development, require all new/replaced CBs have deep sumps. The Public Works/Highway Department has $25,000 in their upcoming budget dedicated to replacing older non-BMP style CBs with new deep sump CBs.
Revised					
2E	Ordinance governing post construction	Public Works Department / Town Boards	Reduce pollutants.	The town has reviewed and amended their existing regulations to include provisions for post-construction stormwater management in new and redevelopment projects.	The town will use and enforce their recent regulation revisions covering post-construction stormwater management in new and redevelopment projects.
Revised					
3E	Ensure long-term maintenance	Public Works Department / Private	Assure long-term maintenance.	Continued aggressive maintenance plan for the town owned BMPs with annual inspections by the Public Works/Highway Department. Issued 33 permits to trap beavers that were restricting flow of rivers/streams and disrupting stormwater flows.	Continued aggressive maintenance plan for the town owned BMPs with annual inspections. Issue beaver trapping permits beginning in May and begin using Beaver Deceivers to stop beavers from restricting flow of rivers/streams and disrupting stormwater flows.
Revised					

4E Revised	Determine appropriate BMP	Public Works Department Public Works Department/Town Boards.	Improve clarity/reduce sediment.	All proposed new/re-development project plans will have to be reviewed by Public Works Department and by the appropriate town committees (Planning Board/Conservation Commission) for appropriate BMPs and require all new CBs to be installed with deep sumps. Appropriate BMPs are recommended for use whenever feasible.	Public Works Department and by the appropriate town committees (Planning Board/Conservation Commission).will continue to review all plans for new/re-development to ensure appropriate BMPs are being implemented.

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 5** (Reliance on non-municipal partners indicated, if any)	**Planned Activities**
1F Revised	Operation / maintenance program	Public Works Department	Sweep all streets and clean all catch basins.	Swept 100% of town's roads (approx. 33 miles) and cleaned and inspected approximately 500 CBs.	Continue the annual street sweeping and CB inspection/cleaning programs.
2F Revised	Employee training	Public Works Department	Conduct catch basin survey for integrity/dry weather flows.	Continued training employees on all outfall locations, proper inspection techniques of outfalls and CBs, and proper actions needed for chemical spills into the stormdrain system.	Continue the training of all public works employees on outfall and CB inspections, and on proper chemical spill actions.

3F	Determine appropriate BMP	Public Works Department	Installed deep sump catch basins w/ infiltration trenches for new cemetery and Pleasant St. sidewalk & roadwork.	Five non-BMP style CBs were replaced with new deep sump CBs. All proposed new/re-development plans have to be reviewed the Public Works Department and by the appropriate town committees (Planning Board/Conservation Commission). All new/replaced CBs are required to be installed with deep sumps. Appropriate BMPs are recommended for use, whenever feasible.	The Public Works Department and by the appropriate town committees (Planning Board/Conservation Commission) will continue to review all plans for new/re-development to ensure appropriate BMPs are being implemented. The Public Works/Highway Department has $25,000 in their upcoming budget dedicated to replacing older non-BMP style CBs with new deep sump CBs.
Revised		Public Works Department/Town Boards.			
4F	Public involvement	Public Works Department / Health Department	Household hazardous waste collection / public participation.	A community cleanup of Pleasant Pond took place in June 2007.	Pleasant Pond community cleanup days are scheduled annually every June. A household hazardous waste drop off day for residents is currently scheduled in September. Additional community cleanup days for the Miles River are being discussed.
Revised					
Revised					

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 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1G Revised	Vegetation swales	Public Works Department	Reduce pollutants.	Continued to monitor opportunities to use vegetation swales on new/re-development projects and use on existing drainage facilities.	Grass swales have been proposed for the soccer fields near the Iron Rail. The Public Works Department will continue to monitor opportunities for use of vegetation swales.
2G Revised	Infiltration drain fields	Public Works Department	Reduce runoff.	Continued to monitor opportunities to use infiltration drain fields on new/re-development projects and use on existing drainage facilities.	The Public Works Department will continue to monitor opportunities for use of infiltration drain fields.
3G Revised	Dry wells	Public Works Department / Planning Board	Reduce runoff.	The Police Department had a dry well installed to infiltrate their roof runoff.	The Conservation Commission mandates that all roof runoff be infiltrated for new projects. The Public Works Department and Planning Board will continue to monitor opportunities for drywell use.
4G Revised	Deep sumps / hooded catch basins	Public Works Department / Planning Board	Reduce sediment / pollutants.	Five non-BMP style CBs were replaced with new deep sump CBs.	The Public Works/Highway Department has $25,000 in their upcoming budget dedicated to replacing older non-BMP style CBs with new deep sump CBs. Continue to enforce that all new/re-installed CBs have deep sumps.
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Not applicable – Draft Pathogen TMDLs have been prepared for the Ipswich River Watershed and North Coastal Watershed but have not yet been approved by the EPA.

Part IV. Summary of Information Collected and Analyzed

The town's drainage system is being mapped on a Geographic Information System (GIS). Approximately 97% of the entire town's stormwater infrastructure has been mapped and a total of 199 outfalls, 615 catchbasins and 114 drainage manholes were located in the field, inventoried using Global Positioning System (GPS), and photographed during the duration of this permit. The locations and photographs for the outfalls are constantly being added and updated as they are found in the field on the Town's online GIS system.

Approximately 500 catch basins were visually inspected during the cleaning program and no dry weather (illicit discharge) issues were noted.

Three outfalls were sampled during dry-weather conditions (72-hours of less than 0.1-inches of precipitation). The samples were tested for contaminates typically found in illicit connections (fecal coliform, *E.coli,* surfactants and ammonia). The results of the tests showed no problems and were well below drinking water standards. A copy of the summarized results of this testing is enclosed in this permit submission.

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2007 through March 31, 2008)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures **	($)	
Total program expenditures since beginning of permit coverage	($)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	4,000
Stormwater management committee established	(y/n)	N
Stream teams established or supported	(# or y/n)	N
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	~0.25
Shoreline cleaned since beginning of permit coverage	(mi.)	~1.25
Household Hazardous Waste Collection Days		

▪ days sponsored **	(#)	0, the day will be in upcoming year
▪ community participation **	(# or %)	N/A
▪ material collected **	(tons or gal)	N/A
School curricula implemented	(y/n)	N

Legal/Regulatory

	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	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			

(*) Under review by the Attorney General Office.

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	~97%
Estimated or actual number of outfalls	(#)	199
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	~97%
Mapping method(s)		
▪ Paper/Mylar	(%)	~97%
▪ CADD	(%)	0%
▪ GIS	(%)	~97%

Outfalls inspected/screened **	(# or %)	85%
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	85%
Illicit discharges identified **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	0
Illicit connections removed **	(#); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	0
% of population on sewer	(%)	<5%
% of population on septic systems	(%)	>95%

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	0
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	N/A
Site inspections completed **	(# or %)	100%
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	(%)	100%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	100%
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Y
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1
Qty of structures cleaned **	(#)	500
Qty. of storm drain cleaned **	(%, LF or mi.)	500 LF±
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	75yd^3
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	($)	$4,000 (budgeted)
• Hourly or per basin contract rate **	($/hr or $ per basin)	$12/basin
• Disposal cost**	($)	0
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	Contracted
• Vacuum truck(s) owned/leased	(#)	0
• Vacuum trucks specified in contracts	(y/n)	N
• % Structures cleaned with clam shells **	(%)	100%
• % Structures cleaned with vactor **	(%)	0

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	1
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	225yd^3
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	($)	$8,000 (actual)
• Hourly or lane mile contract rate **	($/hr. or ln mi.)	$93.00/hr

• Disposal cost**	($)	0
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	Contracted
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	N
• % Roads swept with rotary brush sweepers **	%	100%
• % Roads swept with vacuum sweepers **	%	0

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	0%
▪ Herbicides	(lbs. or %)	N/A
▪ Pesticides	(lbs. or %)	N/A
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Y

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	*49.5%±* *1%±* *0%* *0%* *0%* *0%* *49.5%±*
Pre-wetting techniques utilized **	(y/n or %)	Y
Manual control spreaders used **	(y/n or %)	Y
Zero-velocity spreaders used **	(y/n or %)	N
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	None

Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	None
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Y

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	N
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	N
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	N

Five Centennial Drive
Peabody, MA 01960-7985
tel: 978-532-1900 fax: 978-977-0100
www.westonandsampson.com

planning, permitting, design, construction, operation, maintenance, design/build, & equipment
Weston&Sampson®

Wenham, Massachusetts
WSE Job No. 2060432.A

December 21, 2007

Mr. Bill Tyack, Superintendent
Wenham Highway Department
91 Grapevine Road
Wenham, Massachusetts 01984

Re: Results of Dry Weather Inspection and Sampling of Stormwater Outfalls

Dear Mr. Tyack:

As requested, Weston & Sampson has conducted dry weather inspection and sampling of stormwater outfalls in Wenham. We visually inspected seven outfalls based on recommendations of possible dry weather flows from the Town's DPW employees. The outfalls were inspected after a period of at least 72-hours of no precipitation to ensure dry weather conditions. None of the outfalls exhibited any visual or odor concerns that would lead to the assumption of illicit connections in the storm water system. Of the seven inspected outfalls, three were found to have dry weather flow. The three flowing outfalls were sampled and the results of the water quality analysis testing are shown in the table below.

Outfall	Date Sampled	Fecal Coliform (cfu/100ml)	Escherichia coli (E.*coli*) (cfu/100mls)	Surfactants (mg/l)	Ammonia-Nitrogen (mg/l)
Lords Hill – Hilltop Road 1	11/30/07	<10	<10	<0.1	0.70
Lords Hill – Hilltop Road 2	11/30/07	10	<10	<0.1	0.30
Mayflower Drive	11/30/07	10	<10	<0.1	0.30

NOTE: cfu = colony forming units; ml = milliliters; mg/l = milligrams per liter

Please note that the laboratory detection limits for Fecal Coliform and E-Coli are 10cfu/100ml, while the detection limits for Surfactants and Ammonia are 0.1 mg/l and 0.10 mg/l respectively. When a sample has the symbol "<" preceding the reading it means that the results are below the detection limits of the testing method.

The results from the testing do not show any major problems with the dry weather flows, and are all below drinking water standards. The flows during the dry weather period are most likely coming from underground springs that are common in the area and are entering the local drainage system. The ammonia-nitrogen readings for the samples are most likely due to

decaying organic matter from the fallen leaves located in and around the wooded areas of the outfalls, but are not indicative of a domestic water source.

Enclosed in this letter please find the testing results from R.I. Analytical Laboratories, Inc., and Weston & Sampson's Outfall Inspection Reports for all the outfalls inspected.

Please do not hesitate to call if you have any questions with the results or the inspection reports.

Very truly yours,

WESTON & SAMPSON ENGINEERS, INC.

Timothy S DeGuglielmo
Engineer
Enclosures

O:\Wenham MA\EPA Phase II Report\Sampling 2007\ltr_Tyack_results of sampling.doc