City of Nashua

Public Works Division
9 Riverside Street
Nashua, NH 03060

Division Director
(603) 589-3137
Fax (603) 589-3169

June 3, 2008

Ms. Ann Herrick
U.S. Environmental Protection Agency
1 Congress Street, Suite 1100 (CIP)
Boston, Massachusetts 02114-2023

Mr. Jeffery Andrews
N.H. Department of Environmental Services
Water Division
Wastewater Engineer Bureau
P.O. Box 95
Concord, NH 03302-0095

RE: City of Nashua, New Hampshire
NPDES Phase II General Permit No. NHR041021
2008 Annual Report

Please find enclosed the 2008 Annual Report for the period May 1, 2007 to March 31, 2008 as required under the NPDES General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4) for the City of Nashua, New Hampshire. Included in this report is:

Part I.	Self-Assessment
Part II.	Summary of Minimum Control Measures
Part III.	Summary of Information Collected and Analyzed
Part IV.	Implementation Schedule.
Part V.	Program Outputs & Accomplishments

Information supporting the report is included in Appendix A.

Please contact this office if you should have any questions concerning this report.

Respectfully,

Richard S. Seymour, Jr., Director
Public Works Division

enc: (1)

c: Stephen Dookran, P.E., City Engineer
Mario Leclerc, Superintendent, Nashua Wastewater Treatment Facility
Scott Pollock, Superintendent, Nashua Street Department
Amy Prouty Gill, City Engineer's Office

Administration Business Office (603) 589-3140	Street Department (603) 589-4750	City Engineer (603) 589-3120	Parks-Recreation Department (603) 589-3370	Solid Waste Department (603) 589-3410	Traffic Department (603) 589-4700	Wastewater Treatment Plant (603) 589-3560

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City of Nashua, NH
NPDES Phase II Small MS4
General Permit No. NHR041021

2008 Annual Report

May 1, 2007 to March 31, 2008

Prepared by:
City of Nashua
Public Works Division
9 Riverside Street
Nashua, NH 03062
(603) 589-3140

Municipality/Organization: **City of Nashua, NH**

EPA NPDES Permit Number: **NHR041021**

Annual Report Number & Reporting Period: **No. 5: 5/1/07 – 3/31/08**

NPDES Phase II Small MS4 General Permit Annual Report

General Information

Contact Person: Richard S. Seymour Title: Director, Public Works Division

Telephone #: 589-3140 Email: seymourr@nashuanh.gov

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: Richard S. Seymour, Jr.

Title: Director, Public Works Division

Date: June 2, 2008

Part I. Self-Assessment

The City of Nashua is under an EPA Consent Decree (Civil Action No. 05-376-PB), dated December 26, 2005 (based on the Long-Term Water Quality and Infrastructure Control Plan), to mitigate Combined Sewer Overflows (CSOs). Currently, there are eight CSO outfalls that are a part of the City's sewer collection system, four that discharge to the Nashua River and four that discharge to the Merrimack River. CSOs have been identified as a probable source for the Escherichia coli impairment of the portions of the Nashua and Merrimack Rivers located nearest to the City, as identified in Appendix A of this report. Several projects related to the Consent Decree are ongoing will reduce the amounts of CSOs occurring in the Nashua and Merrimack Rivers.

In October 2006, the construction of the 60 mgd Wet Weather Flow Treatment Facility (WWFTF), located at the Nashua Wastewater Treatment Facility, to capture and treat combined (sanitary and stormwater) flow began. This WWFTF will greatly reduce the occurrence of CSOs and the volume of combined flows that is discharged to these rivers. Also, more urban stormwater runoff from approximately 30 percent of the City, which is part of the combined flow, will now be conveyed to the WWFTF where it will be treated before being discharged to the Merrimack River. Completion is expected in January 2009.

The final design of improvements to five of the existing CSO regulators (003, 004, 007, 008, and 009) in order to optimize storage in the collection system and/or to minimize or eliminate for certain storm events, as required by the Consent Decree, is ongoing. Three of the CSOs are located on the Nashua River and two are located on the Merrimack River. These optimization measures with allow more combined flow to be conveyed to the new WWFTF. These optimizations measures will be under construction by August 2008 and scheduled to be completed by November 2009.

A preliminary design report for a screening and disinfection facility for CSO control at CSO structures 5 and 6 was completed. Based on the results of the study, it was determined that a re-evaluation of alternatives to reduce and eliminate CSOs at these regulators should be considered and the City is in the initial stages of procuring a consultant to do that study.

In May 2007, the City hosted the Nashua Stormwater Coalition at their offices at 9 Riverside Drive to show the surrounding communities the BMPs installed as part of the redevelopment of the DPW property. BMPs on the site include porous pavement, a rain garden, a Stormceptor, catch basin hoods, and educational markers. A total of five coalition meetings were held during the reporting period.

Paulie the Pickerel "Let only Rain go down the Storm Drain" markers continued to be applied on separated catch basins within the City. Door hangers containing information about stormwater dos and don'ts were distributed in neighborhoods where the markers were being applied.

Field verification of outfalls on small brooks and ponds continued. The Geographic Information

System (GIS) mapping program was updated with new information and corrected when discrepancies were found.

The NHDES has identified portions of Old Maid's Brook, Harris Brook, and Salmon Brook (NHRIV700061201-05 and NHRIV700061201-07) as being impaired for Escherichia coli (E. coli). One reach has the probable source of the contaminant being identified as illicit connections and/or hook-ups to storm sewers. Sampling was completed on these waterways to determine the limits of further investigation. Results of the sampling are reported in Part III of this report. The City will attempt to trace the sources of the E. coli.

Good housekeeping measures included the continuous street sweeping program. Two new street sweepers needed to be purchased so testing of mechanical sweepers to replace the vacuum mechanical units was investigated. Mechanical sweepers did not remove the fine particles to an acceptable level so two vacuum mechanical sweepers were purchased.

The preliminary design of the widening of Route 101A located in the drinking watershed of the Pennichuck Brook system is nearing completion. The design will incorporate treatment of any new stormwater generated.

Separation of some combined sewers continued. The construction of replacement outfall to convey the treated stormwater and discharge from a CSO structure to the Merrimack River was completed in May 2007. This outfall provides a discharge point for stormwater from a recently separated 38-acre drainage area near South Main Street. Prior to discharge through the outfall, the stormwater passes through a treatment train consisting of a swirl separator unit, detention pond and created wetlands. This stormwater previously would have discharged as combined sewage at this location. The installation of separate outfall pipes has eliminated the contamination of the tributary brook with combined sewer flows.

Wetland Buffer Markers continue to be required to be installed in the buffer areas of impacted wetlands by the Nashua Conservation Commission when proposed developments include wetland impacts. The purpose of the markers is to encourage residents not to dump debris in wetland areas.

The Enviroscape Watershed/Non-point Source Model was used as part of a stormwater education program presented to middle and elementary school students, Boy Scouts, and regional Stakeholders. The model was used as a part of the program to educate the public about watersheds and nonpoint source pollution. The model will continue to be used in classroom presentations and public events in the next permit period.

Additional activities completed during the permit period May 2007 through March 2008 are included in Part II of this report.

To address Part I.C.1 of the City's General Permit, Table A is included in **Appendix A.** Listed on Table A are the water bodies within the City limits that are on the NHDES Final 2006 List of

Threatened or Impaired Waters that require a TMDL (303(d) list). Included in the table is the Best Management Practice to address the cause of impairment.

No TMDL has been approved for any water body into which the City of Nashua discharges, as required of Part I.D. The schedule for required TMDL's is listed in Table A, located in **Appendix A**.

The City of Nashua has completed the required self-assessment and is in compliance with permit conditions.

Part II. Summary of Minimum Control Measures

The summary of the activities completed in the Permit Year 5, May 2007 through March 2008, of the six Minimum Control Measures is listed on the attached table. Planned activities for Permit Year 6, April 2008 through March 2009, are also listed. Revisions to the Best Management Practices have been noted in the table.

Reporting Period
5/2007 - 3/2008

Part II. Summary of Minimum Control Measures

City of Nashua, NH

BMP ID#	Best Management Practice	Measurable Goal	Responsible Party	Progress on Goals Permit Year 5	Planned Activities Next Year
1.00	**Public Education**				
1.01	Storm water education program for school children	Purchase Enviroscape Watershed/Nonpoint Source model	DPW (1) - Amy Gill	Presentations using the Enviroscape were given to Middle School students, Volunteer groups(Boy Scouts, City Year), city employees, regional stormwater coalition.	Continue presentation in the schools and at other events. Establish more contacts with educators.
Revision		Number of presentations given using Enviroscape			
1.02	Insert flyer in local newspaper describing city wide storm water program	Number of inserts distributed annually	DPW - Amy Gill	No action. Due to excessive costs, newspaper inserts will not be used	
1.03	Create web page on City web site	Web page online by 12/05	DPW - Stephen Dookran, Amy Gill	New City web site online. Draft for stormwater information being developed. Status of stormwater improvement projects listed.	Review and update stormwater web page.
Revision		Web page online by 12/08			
1.04	Create Public Service Announcements	Run Announcement quarterly on cable TV channel access	DPW - Amy Gill	Power point slides developed and played on government cable channel May and June 2007, and in October and November 2007.	Continue playing educational power point presentatiions on cable access channel.
Revision		Number of days presentation runs			
1.05	Create brochure and presentation to inform businesses and industrial users about illicit discharges	Distribute to businesses and industrial users once every two years	DPW - Phil Appert	No action taken yet on this item.	Begin development of brochure.
1.06	Run three videos on Cable Access TV. "After the Storm" , "Stormwater is Never Away" and "A River Reborn"	Number of times videos are run.	DPW - Amy Gill	No action taken on this item. Public access channel continues to be restructured.	Continue to run videos.
1.07	Create board for display at functions where the public is gathered.	Number of times display is used.	DPW - Amy Gill	Board used as tool during classroom/volunteer presentations.	Update board and continue to display board at various public events.

BMP ID#	Best Management Practice	Measurable Goal	Responsible Party	Progress on Goals Permit Year 5	Planned Activities Next Year
1.08	Install Wetland Buffer Markers to encourage no dumping of debris in a wetland area.	75 markers to be installed in 3 years.	DPW - Scott Pollock, Amy Gill	Task complete. Wetland markers continue to be installed by developers as stipulations for approval by the Conservation Commission.	Installations of wetland markers will continue to be stipulated by the Conservation Commission as part of the approval process.
1.09	Mail letters to owners/residents that abut wetland to explain importance of wetland and encourage no dumping in wetland area.	Number of letters mailed to abutters	DPW - Amy Gill, NCC(7)	Task completed.	
1.10	Design sign for brook/stream crossings	Percent design completed	DPW - Amy Gill, NCC	Discuss concept with City departments.	Design sign.
1.11	Present Stormwater Management Program at Public Meetings	Number of Presentations	DPW- Amy Gill	No action on this item.	
1.12	Purchase and distribute Magnets with "Paulie the Pickerel" logo at public functions	Number of magnets distributed	DPW - Amy Gill	Magnets continue to be distributed in city offices.	Continue to distribute magnets.
1.13	Develop informative flyer about stormwater pollution and include in wastewater bills and display at public places.	Number of flyers distributed	DPW- Mario Leclerc, Amy Gill	Approximately 18,000 inserts were printed and distributed as an insert in the Wastewater bills and at public locations. See Appendix B.	Continue to distribute flyer.
1a.	**Addition**				
1.14	Develop Power point to run on Public Access television	Number of days presentation runs	DPW- Gill	Power point ran May and June 2007 and in October amd November 2007.	Update and run power point.
2.00	**Public Participation**				
2.01	Attach Storm Drain Markers in or near Catch Basins discharging to open water body	40% installed by 11/04, 80% installed by11/05, 100% by 11/06	DPW - Amy Gill, Pennichuck Water Works, Inc.	500 more markers purchased. Approximately 1,500 markers installed.	Continue to have public involved in applying markers.
Revision		50% installed by 10/08			

BMP ID#	Best Management Practice	Measurable Goal	Responsible Party	Progress on Goals Permit Year 5	Planned Activities Next Year
2.02	Continue phone hotline service for stormwater related concerns	Establish a hotline. Record number of phone calls concerning drainage issues	DPW- Mario Leclerc, NWTF(2)	Hotline for drainage issues continues. Record violations and report to NHDES(3) and USEPA(4) as needed.	Continue hotline for drainage issues.
2.03	Meet with local communities, and the NHDOT. Meeting coordinated by the Nashua Regional Planning Commission (NRPC). Group called Nashua Stormwater Coalition.	Meet every two months for a total of 6 meetings per year	DPW - Amy Gill, NRPC (8)	Representatives from Amherst, Merrimack, Nashua, Hollis, Hudson, Milford, NRPC and NHDOT attend meetings. Six meetings held. The City hosted a meeting in May to show BMP constructed on DPW property. Attended quartly meeting with Nashua River Watershed Association in February.	Continue to meet with members of the surrounding communities.
2.04	Create door hanger with tips on preventing stormwater pollution	Number of door hangers distributed	DPW - Amy Gill	Door hangers were distributed as a part of the catch basin marker program and made available at public areas in City Hall.	Continue to distribute door hangers to the public.
2.05	Provide email links for stormwater related concerns	Number of times email received	DPW	Frequent emails received to report stormwater issues.	Continue to monitor emails.
2.06	Request public input for ordinance revision to Stormwater Management and Wetlands sections	Number of meetings held	CDD	Continue to obtain public comment on ordinances.	Continue to obtain public comment on ordinances.
3.00	**Illicit Discharge Detection and Elimination**				
3.01	Map outfalls and waters of the United States in Nashua city limits	Complete by 11/04. Count number of outfalls identified	DPW - Amy Gill	Continued updating GIS maps based on field verifications of drainage systems and outfalls, and completion of new drainage systems.	Continue to update GIS maps based on field verification of outfalls and newly constructed outfalls.
3.02	Prepare an Illicit Discharge Detection and Elimination (IDDE) Plan	Complete final plan 10/04	DPW - Amy Gill	Continue to develop Draft IDDE.	Complete IDDE Plan.

BMP ID#	Best Management Practice	Measurable Goal	Responsible Party	Progress on Goals Permit Year 5	Planned Activities Next Year
Revision		Complete final plan 10/06			
3.03	Review illicit discharge ordinance	Amend ordinance as necessary by 12/ 07	DPW - Amy Gill	Determined ordinance may require revisions.	Begin process to make changes to ordinance if needed.
3.04	Continue dry weather field survey of outfalls.	Complete survey of outfalls. Locate other outfalls in water bodies not included in survey by 11/04	DPW - Mario Leclerc, Amy Gill	Continue survey of outfalls on smaller brooks and ponds. Addition outfalls documented.	Update outfall list as outfalls are located or newly constructed.
3.05	Conduct sampling of dry weather discharges and attempt to trace source of illicit discharge	Sample and identify source of suspect outfalls	DPW - Amy Gill	Dry weather sampling of stream and brooks ongoing to attempt to trace illicit discharges. See task 3.10.	Sample suspect sources as needed.
3.06	Remove illicit discharges as budgetary funding allows	Track number of illicit discharges detected and removed	DPW - Mario Leclerc, Scott Pollock	Suspect discharge identified at New Searles Road. Steps being taken to remove illicit outfall from system.	Continue testing and tracking suspect discharges.
3.07	Continue Regional Hazardous Waste Collection Day	Conduct 5 collection days per year	DPW - Sally Hyland, Solid Waste	Hazardous waste collection days held on 6/7, 8/4, 10/6, and 11/3/2007. Event coordinated with NRPC.	Hazardous waste collection days scheduled for 4/12. 6/5, 8/2, 10/4, and 11/1/08 for this year.
3.08	Track Hazardous Spills	Number of Spills identified	DPW - Mario Leclerc	No hazardous spills reported.	Report on spills as necessary.
3.09	Conduct watershed audit for input in NRPC report	Complete audit	DPW, CDD, NRPC	Audit completed.	
3.10	Sample outfalls in water body RIV700061201-05, identified on the Impaired waters list	Number of outfalls sampled	DPW - Mario Leclerc	At least ten outfalls sampled by NWTF staff. Volunteer groups continue their sampling programs and report results to state and city.	Sample outfalls and trace source, if possible.
4.00	**Construction Site Runoff Control**				
4.01	Review procedure for site plan review to consider if potential water quality impacts are included	Complete review by Dec. 31 2005	DPW - Amy Gill, CDD	Land use ordinance revised and updated, effective January 2, 2006.	Continue review of implementation of new ordinances.

BMP ID#	Best Management Practice	Measurable Goal	Responsible Party	Progress on Goals Permit Year 5	Planned Activities Next Year
4.02	Review requirements for construction operators to control demolition waste, chemicals, sanitary waste and other waste at the construction site	Complete review by Dec. 31 2005	DPW - Amy Gill	Land use ordinance revised and updated, effective January 2, 2006.	Continue review of implementation of new ordinances.
4.03	Review existing city ordinances concerning stormwater management at construction sites (Sec 16-145) and modify as necessary	Make recommendations for improvements by June 2006. Proceed through internal process to change ordinance by Dec. 2007	DPW - Amy Gill	Land use ordinance revised and updated, effective January 2, 2006.	Continue review of implementation of new ordinances.
4.04	Develop standard drawings of runoff prevention BMPs to be used by site developers	Produce document containing at least 7alternative erosion protection measures by Dec. 2006	DPW - Amy Gill	Gather sample drawings and compile into standards.	Compile drawings electronically.
4.05	Review procedures for inspection of construction sites to see if BMPs are in place and functioning correctly	Complete review by Dec. 2006	DPW - Amy Gill, CDD	CDD contacted and informed that procedures need to be reviewed.	Complete review of inspection procedures.
4.06	Review procedures for enforcement of improper functioning sediment and erosion control measures	Complete review by Dec. 2006	DPW - Amy Gill, CDD	CDD contacted and informed that procedures need to be reviewed.	Complete review of inspection procedures.
5.00	**Post Construction Runoff Control**				
5.01	Review existing ordinance Sec. 16-145 which requires post development peak discharges be no greater than predevelopment discharges. Modify as necessary	Make recommendations for improvements by June 2006. Proceed through internal process to change ordinance by Dec. 2007	DPW - Amy Gill	Land use ordinance revised and updated, effective January 2, 2006.	Continue review of implementation of new ordinances.

BMP ID#	Best Management Practice	Measurable Goal	Responsible Party	Progress on Goals Permit Year 5	Planned Activities Next Year
5.02	Review ordinance Sec 16-145 for ground water recharge required on new site plans	Make recommendations for improvements by June 2006. Proceed through internal process to change ordinance by Dec. 2007	DPW - Amy Gill	Land use ordinance revised and updated, effective January 2, 2006.	Continue review of implementation of new ordinances.
5.03	Implement Annual Operations and Maintenance requirement for BMPs on private properties	Implement by Dec. 2007	DPW - Amy Gill	Land use ordinance revised and updated, effective January 2, 2006.	Continue review of implementation of new ordinances.
5.04	Develop enforcement measures and assign internal staff to enforce requirements	Implement by Dec. 2007	DPW - Amy Gill	CDD contacted and informed that requirements need to be reviewed.	Complete review of requirements.
5a.	**Addition**				
5.05	Install Low Impact Development items on Municipal Properties	Design and Construct on Riverside Street Property	DPW - Steve Dookran	Task complete.	
6.00	**Municipal Good Housekeeping**				
6.01	Hazardous waste training program for applicable employees	Employees attend annual hazardous spill training program beginning May 2005	DPW - Mario Leclerc	Consultant hired to train NWTF staff about hazardous wastes.	Contine to train employees.
6.02	Storm water discharge training program for applicable municipal employees on preventing non-storm water discharges	Employees attend annual storm water discharge training program beginning May 2005	DPW - Mario Leclerc	EPA Stormwater Web Casts viewed by staff. Employees attended various conferences.	Contine to train employees.
6.03	Review program for handling fertilizer on city property	Complete review July 2005	DPW - Nicholas Caggiano, Amy Gill	Task complete.	Continue implementation of fertilization policies.

Part II. Summary of Minimum Control Measures

BMP ID#	Best Management Practice	Measurable Goal	Responsible Party	Progress on Goals Permit Year 5	Planned Activities Next Year
6.04	Continue litter management program by street sweeping entire City at least once a year.	Review program annually and record number of lane miles swept	DPW - Scott Pollock	Program began in March 2007. Entire City swept once, with commercial/arterial or other critical streets being swept up to 6 times per year. Two new street sweepers purchased.	Continue street sweeping.
6.05	Review snow dumping procedure to allow snow storage in areas away from surface waters	Complete review July 2005	DPW - Scott Pollock	Program reviewed. Snow continues to be stored in an area where stormwater treatment is available before the melted snow is discharged to a water body. Area is swept during and after snow melt.	Review program annually.
6.06	Continue city wide program to clean catch basins	100% of all catch basins cleaned once every 3 years	DPW - Mario Leclerc	At least 250 catch basin were cleaned.	Continue catch basin cleaning program.
6.07	Continue SSO(6) correction and mitigation program for SSOs that discharge to water bodies	Record number of SSOs corrected.	DPW - Mario Leclerc	One SSO was reported that affected a water body.	Continue correction of SSOs.
6.08	Television inspection of storm drains as needed	Record number Inspect as needed	DPW - Mario Leclerc	Approximately 2,000 LF of Storm Drain were inspected with the robotic camera.	Continue inspection as needed.
6.09	Calibrate salt and sand truck spreaders	Complete annually before November 1st	DPW - Scott Pollock	Calibrated salt and sand trucks in November 2007. One truck that did not have ground speed control salt discharge was replaced with a new unit that does have ground speed control.	Calibrate trucks in fall 2007.
6.10	Review pooper scooper ordinance	Review ordinance by July 2005	DPW- Amy Gill, Nick Caggiano	Ordinance reviewed and found adequate. Four Doggie Convenience Stations were monitored. Bags holders are being emptied and replaced approximately monthly. Stations frequently vandalized.	Monitor the use of the Doggie Convenience Stations. Add more stations if funding allows.

BMP ID#	Best Management Practice	Measurable Goal	Responsible Party	Progress on Goals Permit Year 5	Planned Activities Next Year
6.11	Disseminate information contained within city developed Alternative Storm Water Management Methods guide for Storm Water Control	Make available to developers as guide by July 2004	DPW - Amy Gill	Low impact development ides continued to be discussed with developers.	Continues discussin with developers the advantqges of LIDs.
Revision		Make available by July 2005			
6.12	Develop a ditch/swale cleaning program	Develop program by July 2005	DPW - Mario Leclerc	Swales continue to be inspected and cleaned as needed. Preliminary inventory of swales of completed. Need field verification.	Continue to inventory swales. Develop program and inspect swales.
6.13	Develop culvert maintenance program.	Develop and Implement program by 2007	DPW - Mario Leclerc	List continues to be updated and field verified.	Continue to field verify locations of culverts.
7.00	**Impaired Waters**				
	No TMDL is listed for any water body into which the City stormwater discharges.				

(1) DPW - Division of Public Works Division, City of Nashua
(2) NWTF -Nashua Wastewater Treatment Facility, City of Nashua
(3) NHDES - New Hampshire Department of Environmental Services
(4) USEPA - United States Environmental Protection Agency
(5) CDD - Community Development Division, City of Nashua
(6) SSO - Sanitary Sewer Overflow
(7) NCC - Nashua Conservation Commission
(8) NRPC - Nashua Regional Planning Commission
(9) NHDOT - New Hampshire Department of

Part III. Summary of Information Collected and Analyzed

Ten sites in the City were sampled and tested for Escherichia coli bacteria during the summer of 2007. Some of these locations were along the Harris, Hassel, Old Maid's and Salmon Brooks. These waterways were identified as impaired on the NHDES 2006 303(d) List for E. coli with the likely cause due to illicit connections and/or hook-ups to storm sewers. The City is evaluating the results and will attempt to trace illicit discharges into these waterways. Boire Brook was sampled to continue monitoring the E. coli level in the water. This brook was delisted from the 2004 303(d) List because the high E. coli counts were attributed to wildlife. NHDES has requested the City to continue to monitor the brook. Table III -1 presents the results of the sampling program.

Volunteers with the Souhegan Watershed Association Council continue to monitor several outfall locations in Nashua on the Merrimack and Nashua Rivers. These samples are tested at the Nashua Wastewater Treatment facility. The results from the sampling program are available on the web site maintained by the association at http://www.souheganriver.org.

Table III - 1. Watershed Sampling Data for Escherichia coli

Results MPN/ 100mL

Site	Waterbody	Location	8/6/07	8/13/07	8/15/07	8/17/07	8/20/07	8/21/07	8/22/07
1	Old Maids Brook	18 Bicentennial	1119	387	285	461	235	290	>2419
2	Old Maids Brook	18 Shelley Drive	579	214	1119	172	73	1553	686
3	Salmon Brook	7 Harris Rd.	275	365	298	387	186	231	365
4	Salmon Brook	Lund near Archery Road	290	461	272	261	151	193	238
5	Hassel Brook	Almont Street	625	461	272	1119	344	140	648
6	Harris Brook	80 Northeastern Road	517	166	135	85	79	47	53
7	Hariis Brook	14 Shingle Mill Rive	461	261	198	285	1119	461	152
8	Hale Brook	282 Main Dunstable	461	224	125	135	151	115	72
9	Hale Brook	at Old Coach Road	117	71	275	55	55	64	67
10	Boire Brook	Southwood Drive	24	27	19	8	93	365	29

Indicates above 400 mpn/100 ml

Part IV. Implementation Schedule

The Stormwater Management Program Implementation Schedule for the Best Management Practices is outlined on the attached table.

Reporting Period
5/2007 - 3/2008

Part IV. SWMP Implementation Schedule

City of Nashua, NH

	PERMITY YEAR 2				PERMIT YEAR 3				PERMIT YEAR 4				PERMIT YEAR 5				PERMIT YEAR 6			
BMP ID #	**Spring 04**	**Summer 04**	**Fall 04**	**Winter 04-05**	**Spring 05**	**Summer 05**	**Fall 05**	**Winter 05-06**	**Spring 06**	**Summer 06**	**Fall 06**	**Winter 06-07**	**Spring 07**	**Summer 07**	**Fall 07**	**Winter 07-08**	**Spring 07**	**Summer 07**	**Fall 07**	**Winter 07-08**
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Bold Text indicates revision or addition
Submitted 6/3/2008

Part IV. SWMP Implementation Schedule

		PERMITY YEAR 2				PERMIT YEAR 3				PERMIT YEAR 4				PERMIT YEAR 5				PERMIT YEAR 6		
BMP ID #	**Spring 04**	**Summer 04**	**Fall 04**	**Winter 04-05**	**Spring 05**	**Summer 05**	**Fall 05**	**Winter 05-06**	**Spring 06**	**Summer 06**	**Fall 06**	**Winter 06-07**	**Spring 07**	**Summer 07**	**Fall 07**	**Winter 07-08**	**Spring 07**	**Summer 07**	**Fall 07**	**Winter 07-08**
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Bold Text indicates revision or addition
Submitted 6/3/2008

Part V. Program Outputs & Accomplishments (OPTIONAL)

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

Programmatic

	Preferred Units	Response
Stormwater management position created/staffed	(y/n)	yes
Annual program budget/expenditures ** *Currently being evaluated. Rough estimates.*	($)	at least $750 K/$400 K
Total program expenditures since beginning of permit coverage*Currently being evaluated. Rough estimates.*	($)	at least $3.6 mil/$2.1 mil
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		Enterprise and General Fund

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)*via wastewater bill insert*	(# or %)	90% estimated
Stormwater management committee established	(y/n)	yes – Regional (NRPC)l
Stream teams established or supported	(# or y/n)	Yes - MFPAC
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	Yes Unknown
Shoreline cleaned since beginning of permit coverage	(mi.)	unknown
Household Hazardous Waste Collection Days *Regionally sponsored*		
▪ days sponsored **	(#)	6
▪ community participation ** *Nashua only*	(# or %)	471 households
▪ material collected ** *Entire region*	(tons or gal)	71,045 pounds
School curricula implemented *Classroom presentations*	(y/n)	Yes
Regional curricula generated by NRPC		

Legal/Regulatory

	In Place prior to Phase II	Reviewing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with "X") ***Revised Land Use Code adopted January 2, 2006***					
• Illicit Discharge Detection & Elimination	X				
• Erosion & Sediment Control	X				
• Post-Development Stormwater Management	X				
Accompanying Regulation Status (indicate with "X") ***Revised Land Use Code adopted January 2, 2006***					
• Illicit Discharge Detection & Elimination	X				
• Erosion & Sediment Control	X				
• Post-Development Stormwater Management	X				

Mapping and Illicit Discharges

Outfall mapping complete	(%)	99%
Estimated or actual number of outfalls	(#)	401
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	99%
Mapping method(s)		
▪ Paper/Mylar	(%)	99%
▪ CADD	(%)	50% estimated
▪ GIS	(%)	99%
Outfalls inspected/screened **	(# or %)	25 estimated
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	401
Illicit discharges identified **	(#)	1
Illicit discharges identified (Since beginning of permit coverage)	(#)	3
Illicit connections removed **	(#); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	2
% of population on sewer	(%)	90% estimated
% of population on septic systems	(%)	10 % estimated

Construction

Tracking not available at this time

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 $)	0
Complaints/concerns received from public **	(#)	

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 %)	unknown
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Yes
Low-impact development (LID) practices permitted and encouraged	(y/n)	Yes

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	0.1/year
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	0.5/year
Qty of structures cleaned **	(#)	at least 250
Qty. of storm drain cleaned **	(%, LF or mi.)	About 20,000 LF

Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	unknown
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	($)	N/A
• Hourly or per basin contract rate **	($/hr or $ per basin)	N/A
• Disposal cost**	($)	$90 per ton
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1
• Vacuum truck(s) owned/leased	(#)	2
• Vacuum trucks specified in contracts	(y/n)	N/A
• % Structures cleaned with clam shells **	(%)	10%
• % Structures cleaned with vactor **	(%)	90%

Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	6
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	6
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	not documented
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	($)	$290,000
• Hourly or lane mile contract rate **	($/hr. or ln mi.)	N/A
• Disposal cost**	($)	0
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1
• Vacuum street sweepers owned/leased	(#)	4
• Vacuum street sweepers specified in contracts	(y/n)	N/A
• % Roads swept with rotary brush sweepers **	%	1
• % Roads swept with vacuum sweepers **	%	99

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination) *Public land has increased since beginning of reporting period therefore use of fertilizers has increased)*		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Yes

Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas) *A blended mix of salt and sand is used on city streets.*	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	

Italicized text is Comment made by City.
N/A: Not Applicable

Appendix A

Table A. Final 2006 List Of Threatened or Impaired Waters that require a TMDL within the Limits of the City of Nashua, NH

Table A . Final 2006 303(d) List of Impaired Waters Requiring a TMDL within the Limits of the City of Nashua, NH

Water Body NH AUID Number	Size	Use Description	Impairment Name	TMDL Priority	TMDL Schedule	Source Name	Best Management Practice
Merrimack River, WWF NHRIV700061206-24	4.88 miles	Aquatic Life	Aluminum	Low	2019	Source Unknown	To be determined once probable source identified by NHDES.
			pH	Low	2016	Source Unknown	To be determined once probable source identified by NHDES.
		Primary Contact Recreation	Chlorophyll-a	Low	2019	Source Unknown	To be determined once probable source identified by NHDES.
			Escherichia coli	Low	2017	Combined Sewer Overflows	The City continues to implement requirements of the EPA Consent Order, including design and construction of a wet Weather Flow Treatment Facility to reduce CSOs.
		Secondary Contact Recreation	Escherichia coli	Low	2019	Source Unknown	To be determined once probable source identified by NHDES.
Merrimack River, WWF NHRIV700061002-14	3.53 miles	Primary Contact Recreation	Escherichia coli	Low	2019	Source Unknown	To be determined once probable source identified by NHDES.
			Creosote	Low	2019	Contaminated Groundwater Rcra Hazardous Waste Sites	
Nashua River, WWF NHRIV700040402-09	1.3 miles	Primary Contact Recreation	Escherichia coli	Low	2017	Combined Sewer Overflows	The City continues to implement requirements of the EPA Consent Order, including design and construction of a wet Weather Flow Treatment Facility to reduce CSOs.
Nashua River, WWF NHRIV700040402-08	3.66 miles	Primary Contact Recreation	Escherichia coli	Low	2017	Combined Sewer Overflows	The City continues to implement requirements of the EPA Consent Order, including design and construction of a wet Weather Flow Treatment Facility to reduce CSOs.
		Secondary Contact Recreation	Escherichia coli	Low	2019	Source Unknown	To be determined once probable source identified by NHDES.

Table A . Final 2006 303(d) List of Impaired Waters Requiring a TMDL within the Limits of the City of Nashua, NH

Water Body NH AUID Number Size	Use Description	Impairment Name	TMDL Priority	TMDL Schedule	Source Name	Best Management Practice
Nashua River, IMP, WWF Mine Falls Dam Pond NHIMP700040402-02 60 acres	Aquatic Life	Dissolved Oxygen Saturation	Low	2019	Source Unknown	To be determined once probable source identified by NHDES.
		Chloride	Low	2019	Source Unknown	To be determined once probable source identified by NHDES.
	Primary Contact Recreation	Chlorophyll-a	Low	2017	Municipal (Urbanized High Density Area)	Vortechnic unit installed upstream of one outfall. Stormwater detention pond installed on another outfall.
Unnamed Brook to Nashua River NHRIV700040402-04 3.059 miles	Aquatic Life	Oxygen, Dissolved	Low	2017	Source Unknown	To be determined once probable source identified by NHDES.
		pH	Low	2017	Source Unknown	To be determined once probable source identified by NHDES.
Nashua River, IMP, WWF Jackson Plant Dam Pond NHIMP700040402-05 40 acres	Primary Contact Recreation	Escherichia coli	Low	2017	Combined Sewer Overflows	The City continues to implement requirements of the EPA Consent Order, including design and construction of a wet Weather Flow Treatment Facility to reduce CSOs.
Salmon Brook (includes Hassell, Old Maid's, Hale Brooks) NHRIV700061201-05 6.34 miles	Primary Contact Recreation	Escherichia coli	Low	2016	Illicit Connections/ Hook-ups to Storm Sewers	Sample outfalls to trace possible locations of sources
Salmon Brook NHRIV700061201-07 0.29 miles	Primary Contact Recreation	Escherichia coli	Low	2019	Source Unknown	Sample outfalls to trace possible locations of sources
	Secondary Contact Recreation	Escherichia coli	Low	2019	Source Unknown	Sample outfalls to trace possible locations of sources
Harris Pond/Pennichuck Brook, PWS NHLAK700061001-04-01 83 acres	Primary Contact Recreation	Cyanobacteria hepatotoxic microcystins	Low	2019	Source Unknown	To be determined once probable source identified by NHDES.

Source: New Hampshire Department of Environmental Services (NHDES), Water Division, Watershed Management Bureau, New Hampshire Final 2006 303(d) List of Impaired Waters Requiring a TMDL .