

Municipality/Organization: Town of Cohasset Massachusetts

EPA NPDES Permit Number: MA041032

MassDEP Transmittal Number: W-041051

**Annual Report Number
& Reporting Period:** #4 **April 1, 2006 – March 31, 2007**

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2007)

Part I. General Information

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Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:

Printed Name: Joseph R. Godzik, VMD

Title: Health Agent

Date: May 1, 2007

Part II. Self-Assessment:

Stormwater awareness has reached the Town of Cohasset in the past year. One hundred year storms, flooding, the train, the formation of an ad hoc stormwater management committee and increased outreach to the public have heightened the awareness of the citizens to the potential problems associated with stormwater and the need to mitigate those problems.

There is a new attitude about stormwater in the Town. This is reflected by a one million dollar authorization to deal with drainage and flooding. This includes funding for the construction of catch basins and a vegetative swale on Jerusalem Road to improve water quality entering Upper Little Harbor. It also includes funding for the upgrade of all the catch basins around Little Harbor.

As noted above, the Selectmen have appointed a Stormwater Management Committee. This Committee will function on an interim basis until a Stormwater Commission is established by Town Meeting. An article establishing the commission and proposed regulations pertaining to pre and post construction runoff is to be presented at the 2007 Annual Fall Town Meeting. Crafting regulations for pre-construction erosion control and post-construction maintenance has been difficult because of limited funding for personnel to enforce these regulations. Work is ongoing to develop these regulations which will involve the Planning Board, Conservation Commission, Public Works and Water and Sewer. The Stormwater Committee is working with the various boards to produce a set of regulations which are reasonable and enforceable.

There are no measures required by the U.S. Fish and Wildlife or National Marine Fisheries Service to minimize adverse effects to endangered species or critical habitats. There are no measures required to prevent adverse impacts on historic properties.

Cohasset Cove is a water quality impaired water. Extensive testing was performed during the summer of 2006. The Town performed water quality tests on the lower portion of James Brook and stormwater structures leading to the Brook. After storm events, levels of fecal coliform and Enterococci bacteria exceeded 100,000 colony forming units / 100 milliliters in some of the sampled sites. Other parameters tested such as total suspended solids, nitrates, total Kjeldahl nitrogen and volatile organic compounds did not have levels which were of any great concern. The Gulf River, the other major water body emptying into the Cove was monitored by volunteers from the Center for Student Coastal Research (CSCR) and the United States Environmental Protection Agency (USEPA). A source of large numbers of fecal coliform and Enterococci bacteria is a storm drain discharging to the River in North Scituate Village. Septic systems are apparently connected to the stormwater system. Cohasset is working with Scituate officials to upgrade septic systems in the area to reduce the pollution load. Another area which contributes to the bacterial loading of the Cove is a drainage swale (The Cut) which is in need of repair. The source of the bacteria has not been found. Further investigation will take place in 2007. During large rain events, the wastewater treatment plant discharges untreated or partially treated sewage into the Cove.

James Brook runs from its origin at Sanctuary Pond to the Cove. Cohasset has no control over some of the discharges going into the Brook. The Massachusetts Highway Department (MHD) discharges stormwater from Route 3A into Sanctuary Pond. The

Massachusetts Bay Transportation Authority (MBTA) drainage structures discharges along the right of way the discharges find their way to James Brook. Cohasset, as part of the Forest Avenue reconstruction project (from Wheelwright Park to North Main Street) has constructed two catch basins with four foot sumps, one drain manhole, a second manhole equipped with a Stormceptor™ water quality structure and four galley structures at the outfall. As part of the Forest Avenue reconstruction, the drainage structures on Heather Drive had to be upgraded. Two existing catch basins and two manholes were rebuilt, and three manholes and four catch basins with four foot sumps were added. The Heather Drive project was completed in 2006 and the Forest Avenue project in December 2006. As part of the MBTA Greenbush project, the MBTA has reconstructed the public parking areas in the Village. The MBTA has constructed or upgraded eight water quality structures, four drain manholes and ten catch basins with four foot sumps.

Cohasset will continue to work with Scituate officials to solve the septic problems in North Scituate Village. CSCR will continue to monitor water quality in the Cut in an effort to fund the source of the bacterial pollution.

The Cohasset Little Harbor is a water body for which a Total Maximum Daily Load (TMDL) has been established for pathogens. The Town of Cohasset has signed an Agreement for Judgment with Massachusetts Department of Environmental Protection (MADEP) to connect all homes in the Little Harbor Watershed to the municipal sewer. The Town is presently working on obtaining a permit to upgrade the treatment plant and increase its capacity to 450,000 gpd to accommodate the increased flows from Little Harbor. As noted above, the 2007 annual town meeting authorized funding to upgrade all existing catch basins around Little Harbor and construct a vegetative swale along Jerusalem Road.

Department of Public Works employees were trained in proper street sweeping and catch basin cleaning. Employees are being trained to use GPS to locate structures.

Students from CSCR performed all sample collection and analyses (except TKN and VOC) for the lower James Brook assessment. As part of the Watershed Academy component of the water quality assessment students received training in sample collection, use of field instruments to measure temperature, pH, dissolved oxygen, watershed definition and other related subjects. This monitoring program will continue throughout the summer. Students will be trained by Cohasset High School Faculty, North and South River Watershed Association staff as well as other Town of Cohasset Employees.

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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
Revised	Health Notes to Cohasset Mariner	BOH-Steve Bobo	Produce (4) articles per year	Ten Health Notes relating to stormwater were published in the Cohasset Mariner	Continue to publish at least four (4) articles per year.
Revised	Informational Mailing	Water Commission	Households reached	North and South River Watershed Association “Greenscapes” mailed to all residents.	Continue to mail “Greenscapes” to all residents
Revised	Beach and Stream Cleaning Day	Girl Scouts/BOH	Number of truckloads of material disposed Do at least two collections per year	Collected six (6) truckloads (one ton capacity) of waste.	Have at least two (2) cleanup days.

1a. Additions

	Provide information on the Town Website	BOH – Tara Tradd	Revise/update website quarterly		Car washing information; NE Rain barrel program
					Others as developed

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
Revised	Utilize local groups	BOH – Steve Bobo and CMHS Faculty	Attendance at related meetings Number of topics offered	Classes offered by the Watershed Academy can be found in Attachment A . Non-municipal partners (instructors) were Coughlin Engineering; Thompson and Grady Consultants	Offer classes in the Watershed Academy. Curriculum to be determined.
Revised	Collect samples from stormdrain outfalls after storm events	BOH and CHS Faculty	Reports on water quality	James Brook Assessment report completed June 2006. Applied for grant to continue study (not awarded)	Complete wet weather sampling round of James Brook Assessment. Continue other sampling.
Revised	Volunteer Monitoring Program Water Quality	BOH-Steve Bobo and CHS Faculty	Reports on water quality	Worked with USEPA on Bassing Beach Project. Report completed September 2006	Continue sampling of Cohasset Harbor, Gulf River, and North Scituate Village. Sample stormwater outfalls in Little Harbor.
Revised	Beach and Stream Cleanup Day	BOH/Girl Scouts	Do at least two (2) cleanups	Citizen volunteers picked up litter and debris and filled six loads of one ton pickup truck. Materials disposed of at the Cohasset Transfer Station.	Continue with organized cleanup days.
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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
Revised	Connectivity Mapping	DPW-Carl Sestito	Complete field form. Put information into GIS catch basin and outfall mapping. Number of basins and outfalls measured	No significant amount of data gathered. No additional personnel.	Continue to gather connectivity data.
Revised	Illicit Connection Regulation	BOH-Steve Bobo	Number of connection reported and removed	No additional illicit connections discovered.	Continue to enforce regulation.
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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
Revised	Bylaw Development	Stormwater Committee	Adopt Bylaw	Stormwater Committee drafted Bylaw. Not accepted by Selectmen and other Town Boards. Will develop something everyone can sign off on.	Get Bylaw passed by Town Meeting in Fall of 2007.
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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
Revised	Bylaw development	Stormwater Committee	Adoption of Bylaw	Stormwater Committee drafted Bylaw. Not accepted by Selectmen and other Town Boards. Will develop something everyone can sign off on.	Get Bylaw passed by Town Meeting in Fall of 2007.
Revised					

5a. Additions

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
Revised	Stormwater BMP for Peppermint Brook	Water Commission – John McNabb		Waiting to hear from the Water Commission	
Revised	Catch basin cleaning and maintenance	DPW – Carl Sestito	Number of catch basins cleaned	Basins cleaned by DPW – 434 Basins rebuilt by DPW – 10 Cleaned and maintained self regulating tide gate at Harbor – 2 Brooks and Streams cleaned by Plymouth County Mosquito Control District: (PCMCD) <ul style="list-style-type: none"> ➤ Heather Dr. to Cedar Acres Lane ➤ Sohier Street behind the Mobil Gas Station ➤ 3A and King Street to Sanctuary Pond ➤ Section of Treats Pond 	Continue catch basin cleaning and maintenance. Continue to work with PCMCD
Revised	Develop signage for catch basins and other infrastructure	Water Resource Protection Commission James Kinch, Chairman	Number of catch basins signed	No signs applied.	Apply signage in James Brook and Little Harbor Areas.
Revised	Street sweeping	DPW – Carl Sestito	Number of Streets swept	All Streets swept	Continue to sweep streets in spring.
	Training	DPW- Carl Sestito	Educate all DPW staff on catch basin cleaning and street sweeping protocols	In house training conducted for all DPW personnel	Update training. Implement IPM training for all personnel. Garden Club sponsored organic gardening training. To use Beechwood

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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
1	Construct catch basins and grassed swale on Jerusalem Road at Richardson’s Brook.	DPW-Carl Sestito	Reduce TSS and bacterial load at Richardson’s Brook entry to Little Harbor	Annual Town Meeting 2007 Authorized funds to construct.	Construct project.
Revised					
2	Upgrade catch basins around Little Harbor	DPW-Carl Sestito	Reduce TSS and bacterial load from outfalls into Little Harbor	Annual Town Meeting authorized funds for upgrades of all catch basins.	Upgrade catch basins.
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

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, 2006 through March 31, 2007)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/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 %)	100%
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	N
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	Y
Shoreline cleaned since beginning of permit coverage	(mi.)	1.0
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	13
▪ community participation ** See attachment B	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	Y

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		

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	330
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	5%
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	5%
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	1
Illicit connections removed **	(#); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	1 unknown
% of population on sewer	(%)	40
% of population on septic systems	(%)	60

Construction

(Preferred Units) Response

Number of construction starts (>1-acre) **	(#)	0
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	0
Site inspections completed **	(# or %)	0
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	(%)	0
Site inspections (for proper BMP installation & operation) completed **	(# or %)	0
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	N
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 **	(#)	424
Qty. of 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, beneficial use, etc.) **	(location)	

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

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of:
 (“N/A” = never used; “100%” = elimination)

▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented	(y/n)	

	(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	
Pre-wetting techniques utilized **	(y/n or %)	
Manual control spreaders used **	(y/n or %)	
Zero-velocity spreaders used **	(y/n or %)	
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/l _n mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/l _n mi. or %)	
% of salt/chemical pile(s) covered in storage shed(s)	(%)	
Storage shed(s) in design or under construction	(y/n or #)	
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	
<ul style="list-style-type: none">• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	

ATTACHMENT A

WATERSHED ACADEMY PROGRAM (Spring 2006) ENV06CZM02 Grant

Student Classroom Modules

1. Drainage System Basics and Non-Point Pollution Sources (March 8, 2006)
2. Drainage Structure Detail and Logging (March 15, 2006)
 - 2a. Structure Logging (Field Instructional Module #1) (March 17, 2006)
3. Sampling Methods (March 22, 2006)
 - 3a. Sampling Program (Field Instructional Module) (March 24, 2006)
4. Laboratory Methods (March 29, 2006)
5. Watershed Hydrology and Flow Estimation Tools (April 5, 2006)
6. GIS & AutoCAD (April 12, 2006)
7. Coastal Pollution Impacts (April 19, 2006)
8. Pollutant Loading & Statistical Analysis of Field Data (April 26, 2006)
9. BMP Methods, Locations and Sizing (May 3, 2006)
10. Pollutant Reduction Estimates and Monitoring Requirements (May 10, 2006)

Student Field Efforts

1. Drainage Structure detail and logging (Continuous after March 18, 2006 until complete)
2. Dry weather sampling (April 1 through May 15, 2006)
3. Wet Weather sampling #1 (April 1 through May 15, 2006)
4. Wet Weather sampling #2 (April 1 through May 15, 2006)
5. BMP site and soil assessments (After May 3, 2006)

ATTACHMENT B