

Municipality/Organization: Town of Bourne

EPA NPDES Permit Number: MAR041094

MaDEP Transmittal Number: W-040428

**Annual Report Number
& Reporting Period:** No. 4: March 2006-March 2007

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Mr. Thomas Guerino

Title: Town Administrator

Telephone #: (508) 759-0600

Email: Tguerino@townofbourne.com

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: _____

Title: Town Administrator

Date: _____

Part II. Self-Assessment

The Town of Bourne has completed the required self-assessment and has determined that our municipality is working toward full compliance within the five-year schedule as submitted to EPA and approved as Bourne's NOI to the General Permit issued to Massachusetts under Phase II of the Regulations. Efforts over the fourth year involved the participation of key people, including monthly meetings of the Phase II Stormwater Management Community Oversight Group, and several meetings of the Phase II Stormwater Staff Working Group, to:

1. Be knowledgeable of the Phase II Requirements and
2. To assist in the formulation and implementation of Programs, Regulations and By-laws with Boards and Commissions.
3. The Town has requested and received a determination from U.S. Fish and Wildlife meeting the eligibility criteria for "listed species" and critical habitat.
4. Bourne has accomplished many of the objectives of the Stormwater Phase II Program, for example:
 - a. Bourne has a vacuum truck to clean storm drains, infiltration systems and the sanitary sewer collection system.
 - b. Bourne has worked closely with the Buzzards Bay Project and has constructed many infiltration systems largely with grant funds.
 - c. Citizens of Bourne are aware of the delicate ecosystems with water on three sides and participate in the sampling and cleanups of shoreline at many locations. The DPW has a mechanical beach rake and cleans all beaches on a weekly basis in season
 - d. The Town has a Pollution Task Force consisting of dedicated citizens that identify sources of pollution and seeks relief by working with regional groups, seeking funds and overseeing the formulation of corrective action.
 - e. The Integrated Solid Waste Management Department (ISWM) has initiated and financially supported curbside recycling for residents, supports a recycling drop-off center for residents, accepts recyclables from most area communities, provides four (4) hazardous waste collections per year through the County Extension, receives waste oil at the drop-off center, and promotes these activities with a yearly newsletter mailed to each household (8,600).
 - f. Citizens volunteer time to assist environmental groups such as Baywatch and Buzzards Bay Action Committee.
 - g. The Bourne Department of Natural Resources operates 3 boat pumpout facilities, one stationary and two vessels.
 - h. The Town has an animal waste pickup By-law.
 - i. The Bourne Board of Health has adopted Regulations to prohibit illicit discharges.

Comprehensive By-Laws to address BMP 4 & 5 are not yet ready for adoption by Town Meeting. The Town Staff Working group met several times attempting to draft a comprehensive stormwater bylaw, utilizing the many examples available. However due to the current work load of many in the working group, it was agreed that the task of drafting the bylaw was not feasible. After discussion with the Town Administrator it was decided to hire an outside consultant to complete the stormwater bylaw for presentation to help pertinent Boards and Commissions understand and support adoption at Town Meeting.

Part III. Summary of Minimum Control Measures

1-3	Network with other Agencies	1. Supt. DPW 2. Other Town staff, i.e Conservation Agent, BOH Agent	Meet 2 times per year minimum.	<ul style="list-style-type: none"> • Participate with Cape communities through resources of Cape Cod Commission. • Health & Conservation Agents met with Pocasset Heights Association to discuss and promote Conservation Pond stormwater remediation project, June 17, 2006 • Conservation Agent, Health Agent & Engineering Tech/GIS Specialist attended Low Impact Development workshop for purposes of managing GIS stormwater data by electronic laptops. Included distribution of Bourne stormwater GIS data, May 24, 2006, Marion. • Conservation Agent Received CZM grant of \$17,000 (January, 2007) for feasibility study to increase size of culvert from Conservation Pond to Hen Cove. Installed measuring device for tidal flow. • Health Agent participated in Coalition for Buzzards Bay planning session and discussed stormwater funding and planning efforts on, April 6, 2007 in New Bedford. • Utilize resources of Buzzards Bay National Estuary Program to seek Stormwater remediation construction funds. • Application prepared & submitted for Construction Phase 2 of Conservation Pond (CPR grant) • Engineering Tech/GIS Specialist submitted edits • Health Agent attended Health Officer training in November 2006 on Stormwater Policy Guidelines. 	<ul style="list-style-type: none"> • Work closely with Cape Cod Commission Group to share information and reduce costs. Work with Buzzards Bay National Estuary Program staff to get information to the public. • Will be part of coalition for Buzzards Bay grant application to the Buzzards Bay Project for stormwater catchbasin/outfall monitoring. • Pollution Task Force is attempting to compile data to address stormwater issues on Cranberry Road/ Cherry Street-discharge to Queen Sewell Pond • Board of Health to re-apply for implementation of final phases of stormwater remediation systems for Conservation Pond.
-----	-----------------------------	--	--------------------------------	---	--

2. Public Involvement and Participation

2-1	Public Input to Process (HOTLINE)	Public Works Supt/Health Dept.	Record messages and respond to complaints	<ul style="list-style-type: none"> Public is aware and is using hotline. BOH responding to complaints Continue to publicize. Local Emergency Planning Committee. Selectman's Task Force on Local Pollution investigates stormwater problems and determines pollution priorities. 	Continue to inform Bourne Citizens of Hotline number and purpose. Meet with Civic Associations. Share information at Family Day at Town Green, Scallop Festival, and Beach Clean-up. Involve TRIAD (Senior organization)
Revised					
2-2	Work with stormwater groups to sample water quality and share information.	Stormwater Community Oversight Group/ DPW Supt.	Attendance at, and participation with Agencies and volunteer groups.	<ul style="list-style-type: none"> Work with Buzzards Bay National Estuary Program staff on Stormwater issues. Mass. Div. Of Marine Fisheries samples local waters and determines if restrictions (or prohibitions) will be placed on shellfishing. BOH samples bathing beaches for similar sanitary conditions. Coalition for Buzzards Bay has an active membership that regularly samples and reports water quality. Massachusetts Bays Program. 	<ul style="list-style-type: none"> Continue participating in existing programs. Bourne to be part of expected Buzzards Bay Project grant for catch basin/outfall sampling
Revised					
2-3	Present annual progress report at Selectmen's meeting.	Stormwater Community Oversight Group/Public Works Supt.	Meet and present information to Selectmen.	Stormwater Oversight group meets periodically with Selectmen also includes Selectmen in distribution of agendas & minutes.	Selectman appoint the Stormwater Committee annually and is notified periodically of progress. Town Meeting is held annually in May and preparation precludes adequate focus on stormwater during this period.
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
3-1	Inventory Storm Drain System.	Supt. DPW Planning Department	Produce map with drainage structures and outfall locations.	<ul style="list-style-type: none"> • Mapping of existing Bourne Stormwater Drainage system completed, May 2006. • Updated inventory data received May 2006 and available on server to GIS users. • The Planning Department 's Engineering Tech/GIS Specialist updates data per as-built plans of approved subdivisions. • Maps of Stormwater Drainage system posted at Town Hall. 	Engineering Tech/GIS Specialist to continue to update data per as-built plans of approved subdivisions and information provided by DPW Supt.
Revised				<ul style="list-style-type: none"> • DPW has three GPS units to update as necessary. 	

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
3-2	Illicit discharge detection plan.	Supt. DPW and BOH Agent	<ul style="list-style-type: none"> • Respond to all complaints and record. • Install leaching chambers to reduce run-off to waterways. 	<ul style="list-style-type: none"> • Public understands hotline purpose. It is utilized and response generated. <ul style="list-style-type: none"> • Staff’s checking outfalls in dry weather and looking for suspicious indicators. • CPR construction grant has been received to remediate Conservation Pond/Hens Cove. Phase I construction completed (stormwater pollution remediation infiltration system for Conservation Pond/Hen Cove). Phase II application submitted for project completion. • Pollution Task Force has prioritized Queen Sewell Pond/Bumps Pond and Red Brook Harbor Herring Run for water quality remediation • Two infiltration drainage systems at Squeteague Harbor (Buzzards Bay) are funded through a CPR Grant and are completed. 	<p>Staff to continue checking outfalls in dry weather and look for suspicious indicators. Employees have been given training to also spot illicit discharges. Priorities will be set from water quality sampling and information from our HOTLINE.</p> <p>Board of Health to finalize written illegal detection plan.</p>
Revised					
3-3	General Information Materials	Supt. DPW, Stormwater Community Oversight Group	Produce informational brochures or flyer. Distribute information to all employees. Distribute information to businesses. Provide to public at Library, Town Hall and Town Meeting.	Flyers have been printed and distributed at Town Meeting and will be available at Town Hall and Public Library. Posters are also prominent at these locations. Information is also being distributed to all employees. .	<p>Increase distribution to Schools and public gathering places.</p> <p>Continue distribution at Town Hall and Town Meeting</p>
Revised					
3-4	DPW training for Illicit Connections	Supt. DPW	Hold meeting. Take attendance Training materials available.	Meeting to be held for DPW personnel and a record of attendees and program is on file. (Early May)	Training materials will be shared.

Revised					
3-5	Illicit discharge prohibition	Board of Health, Supt. DPW	Necessary Regulation changes.	Regulation adopted by Board of Health April 13, 2005	Action complete.
Revised					
Revised					

3a. Additions

	Regional Landfill (See BMP 1-2, 6.5)				
	Encourage restaurants to find free or low-cost markets for used cooking oils				Utilize resources of Cape & Islands Self Reliance, based at Waquoit National Estuarine Reserve, for referrals.

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
4-1	Wetlands By-law for Stormwater Management	Conservation Commission	Adoption of additional Regulations and/or By-laws to expand and improve requirements for stormwater management.	<ul style="list-style-type: none"> Staff Working Group has compiled information & drafted portions of a General Stormwater Bylaw. Conservation Commission currently administers provisions of the 	<ul style="list-style-type: none"> Town to engage consultant to complete the General Stormwater/Erosion Control Bylaw, in consultation with the Stormwater Working Group, for passage by the

Revised				<p>Massachusetts Wetlands Protection Act, and Riverways Act and all development projects within 200 feet of a wetlands resource.</p> <ul style="list-style-type: none"> • Town staff, Boards, and Committees are reviewing protocols, process, by-laws and regulations to expand review of stormwater issues and bring pertinent development sites under scrutiny for stormwater compliance issues. 	<p>next possible Town Meeting.</p> <ul style="list-style-type: none"> • Conservation Commission review recommendations for revisions to expand and improve stormwater management practices. • Conservation Commission to seek Town Meeting approval of changes to Bourne’s Wetlands Regulations, defining new standards and/or referring to a new Town Stormwater By-law. • Agent part of working group to develop town-wide by-laws.
4-2	Subdivision Regulations for Stormwater Management	Planning Board, Zoning Enforcement Officer, Bldg. Inspector, DPW Supt.	Adopt Regulations/By-laws as necessary to expand and improve requirements for stormwater management.	<ul style="list-style-type: none"> • Stormwater management is currently required, and standards specified, by Subdivision Regulations. • The Planning Board currently requires certification of Site Plan stormwater design and calculations by a Registered Professional Engineer. • Town staff, Boards, and Committees are reviewing Subdivision Regulations and researching available resources as to what other Communities have adopted. 	<ul style="list-style-type: none"> • Town to engage consultant to complete the General Stormwater/Erosion Control Bylaw, in consultation with the Stormwater Working Group, for passage by the next possible Town Meeting. • Subsequent to passage of General Stormwater Bylaw, staff to draft and Planning Board to adopt referral to General Bylaw & other improvements to Subdivision Regulations as required relative to stormwater and erosion/siltation control. Zoning Enforcement Officer will be able to enforce these Zoning changes.
Revised					
4-3	Erosion control by-law	Planning Board, Conservation Commission, Zoning Enforcement Officer, Bldg. Inspector, DPW Supt.	Adoption of Construction Erosion Control language in a Town Stormwater By-law and/or Subdivision Regulations.	<ul style="list-style-type: none"> • Construction Erosion Controls are currently required, and reviewed by Planning Staff and Planning Board, for commercial projects under Site Plan Review. • Town Staff, Boards, and Committees are reviewing protocols, process, by- 	<ul style="list-style-type: none"> • Town to engage consultant to complete the General Stormwater/Erosion Control Bylaw, in consultation with the Stormwater Working Group, for passage by the next possible Town Meeting. • Town Staff, Boards, and

Revised				laws and regulations to improve requirements and include other development sites.	Committees complete review and seek Town Meeting approval of additional By-law language to require construction erosion controls for all development sites. <ul style="list-style-type: none"> • Planning Board amend Subdivision Regulations to require construction Erosion Controls by specifying new standards, or by referring to a new Town Stormwater By-law.
4-4	Reporting Hotline	Supt. DPW/ Board of Health	Record calls and respond. Keep records	Hotline has been established and publicized and is being utilized.	Continue to inform the public of the program and how everyone can help by forwarding information via the HOTLINE
Revised					
4-5	Site plan review/ construction site inspection program	DPW Supt., Planning Board, Building Inspector, Conservation Commission	Review plans, inspect, pre-construction site visit.	<ul style="list-style-type: none"> • Town has a formal site plan review of commercial development, including PE Certified stormwater design, construction and post-construction erosion control measures. Conservation Commission currently reviews projects within 100 and 200 feet of wetlands resources. • Town is reviewing protocols, process, by-laws and regulations to expand review to include additional high-priority development sites for stormwater management. 	Develop a protocol and process to review, pre and post construction site inspections of additional development sites, not currently reviewed by Town Boards for stormwater management.

4a. Additions

	Site Plan-Special Permit Review process adopted as amendment to Zoning Bylaw, May 2006.	Planning Board, regulatory staff		Drafted by staff with input and support by Planning Board. Passed unanimously by Town Meeting May 2006. Includes requirement that commercial development projects infiltrate all runoff on site, employ best management practices and control erosion and siltation. Reviewing staff recommend improved stormwater/ erosion-siltation control measures, e.g., separate infiltration of roof runoff, vegetated swales, construction entrances, and have been providing relevant fact sheets & diagrams to applicants & consultants.	Continue to require, recommend and educate re best management practices.
	Request copy of	Planning Board,		As part of Site Plan-Special Permit	Continue this practice.

	commercial projects' construction permit 1+ acre filings with EPA.	staff		review process for commercial development projects.	
--	--	-------	--	---	--

Revised					Board will adopt changes to Subdivision Regulations and/or support the adoption of a new Town Stormwater By-law.
5-3	Erosion Control by-law	Planning Board, Zoning Enforcement Officer, Building Inspector, DPW Supt.	Adoption of post-construction erosion control language in a Town Stormwater By-law and/or in Subdivision Regulations.	<ul style="list-style-type: none"> • Post-construction erosion controls are currently required, and reviewed by Planning Staff and Planning Board for commercial projects under site plan review. • Town Staff, Boards, and Committees are currently reviewing protocols, process, by-laws and regulations to expand requirements to other development sites. 	<ul style="list-style-type: none"> • Town to engage consultant to complete the General Stormwater/Erosion Control Bylaw, in consultation with the Stormwater Working Group, for passage by the next possible Town Meeting. Subsequent to passage of General Stormwater Bylaw, staff to draft and • Planning Board to adopt referral to General Bylaw & other improvements to Subdivision Regulations as required relative to stormwater and erosion/siltation control. • Staff & Planning Board may recommend additional changes to Zoning Bylaw for adoption by Town Meeting. Zoning Enforcement Officer will be able to enforce Zoning changes. • Town Staff, Boards, and Committees complete review and seek Town Meeting approval of additional language to include controls for all development sites. Planning Board amend Subdivision Regulations to require post-construction erosion controls, by specifying new standards or by reference to a new Town Stormwater By-law.
Revised					
Revised					
Revised					

5a. Additions

	<p>Site Plan-Special Permit Review process adopted as amendment to Zoning Bylaw, May 2006.</p>	<p>Planning Board, regulatory staff</p>		<p>Drafted by staff with input and support by Planning Board. Passed unanimously by Town Meeting May 2006. Includes requirement that commercial development projects infiltrate all runoff on site, employ best management practices and control erosion and siltation. Reviewing staff recommend improved stormwater/ erosion-siltation control measures, e.g., separate infiltration of roof runoff, vegetated swales, construction entrances, and have been providing relevant fact sheets & diagrams to applicants & consultants.</p>	<p>Continue to require, recommend and educate re best management practices.</p>
	<p>Request copy of commercial projects' construction permits 1+ acre filings with EPA.</p>	<p>Planning Board, staff</p>		<p>As part of Site Plan-Special Permit review process for commercial development projects.</p>	<p>Continue this practice.</p>

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
6-1 Revised	Street sweeping program	Supt. DPW	Spring annual sweeping all streets/parking lots. Record periodic sweeping of other areas as needed.	<ul style="list-style-type: none"> • Goal has been met and exceeded. All primary arterial roadways swept a minimum of 6 times per year. • Disposal at double-lined landfill in Bourne. • Town utilizes 3 sweepers. • Winter salt stockpiles kept in storage shed. 	Same as year 4
6-2 Revised	Catch basin Cleaning/drain cleaning	Supt. DPW	500 catch basins per year 350 catch basins per year.	<ul style="list-style-type: none"> • 328 catch basins have been cleaned with Town's Vac-All truck. • Disposal at municipal double-lined landfill. • All stormwater infiltration systems inspected and cleaned as needed. 	Same as year 4
6-3 Revised	DPW Annual Training and Policy Guide	Supt. DPW	Preparation of document, distribution, completion of annual training and attendance	<ul style="list-style-type: none"> • Training session to be held before 5/15/07. Training material and attendance will be on file. • No Policy document has been developed to date. • Separate Right-To-Know training conducted first week in April 	Same as year 4
6-4 Revised	Pet waste prohibition	DNR/DPW	Pet waste education, signage and collection	<ul style="list-style-type: none"> • By-law exists. • Educational literature distributed with dog licenses. Dog-waste stations in place. • By-law change passed by Annual Town Meeting, May 2006 prohibiting dogs from all Town owned beaches (formerly only from life guard staffed beaches) 	Add more dog waste stations at busy locations.
6-5	Regional Landfill	Town Manager Facility Manager	To provide and operate a state-of-the-art double-lined landfill for region.	<ul style="list-style-type: none"> • Revenues from the operation of the facility fund extraordinary recycling/hazardous waste programs to regional residents. • Facility is also depository for street 	Facility and programs it supports are scheduled to continue.

Revised				sweepings & catch basin cleanings from municipal operations. New program offers rain barrels to resident through a grant program.	
Revised					

6a. Additions

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	Part time
--	-------	-----------

		consultant
Annual program budget/expenditures	(\$)	\$25,000 FY07

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	8,500 +/-
Stormwater management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	No
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Yes
Household Hazardous Waste Collection Days		
▪ Days sponsored	(#)	4 (regional)
▪ Community participation	(%)	30%
▪ Material collected	(tons or gal)	
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	(%)	100%
Estimated or actual number of outfalls	(#)	154
System-Wide mapping complete	(%)	100%
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	

▪ GIS	(%)	100%
Outfalls inspected/screened <i>[of 243 pipes & outfalls per GIS data]</i>	(# or %)	20% +/-
Illicit discharges identified	(#)	3
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	12%
% of population on septic systems	(%)	88%

Construction

Number of construction starts (>1-acre)	(#)	9
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	
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	(%)	
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)	As needed
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	As needed
Total number of structures cleaned <i>[of 1718 catch basins per GIS data]</i>	(#)	328
Storm drain cleaned	(LF or mi.)	Clogged only
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	900 Tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	(\$)	0\$
Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	Annually as needed

Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	Bi-Monthly
--	------------	------------

Qty. of sand/debris collected by sweeping	(lbs. or tons)	1000 tons +/-
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Landfill
Cost of sweepings disposal	(\$)	0\$
Vacuum street sweepers purchased/leased	(#)	0
Vacuum street sweepers specified in contracts	(y/n)	0

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

Anti-/De-Icing products and ratios	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	25% neg. 75%
Pre-wetting techniques utilized	(y/n)	Some
Manual control spreaders used	(y/n)	Yes
Automatic or Zero-velocity spreaders used	(y/n)	No
Estimated net reduction in typical year salt application	(lbs. or %)	10%
Salt pile(s) covered in storage shed(s)	(y/n)	Yes
Storage shed(s) in design or under construction	(y/n)	Yes