05

Municipality/Organization: Southwick

EPA NPDES Permit Number: MAR041022

MaDEP Transmittal Number: W-045481

Annual Report Number & Reporting Period: **No. 2: March 04-March 05**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Karl Stinehart

Title: Town Administrator

Telephone #: (413) 569-5995

Email: cpendleton@southwickma.net

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: Fred B Arnold II

Printed Name: Fred B. Arnold II

Title: Board of Selectman - Chair

Date: 04/27/05

Part II. Self-Assessment

The Town of Southwick has completed the required self-assessment and has determined that our municipality is in compliance with our Stormwater Management Program and permit conditions. The Town has aggressively mapped outfall locations throughout the Town. The Town is also working to develop a set of by-laws that addresses the NPDES requirements while considering the existing regulations and procedures that address stormwater management. Areas which will be addressed in more detail in Permit Year 3 include finalizing draft by-laws and submittal for Town Meeting approval.

Acronyms Used in Following Pages

BOS = Board of Selectmen
Con Com = Conservation Commission
CRC = Citizens Restoring Congamond
DPW = Department of Public Works
LMC = Lake Management Committee
PB = Planning Board
PRC = Parks & Recreation Commission
PVPC = Pioneer Valley Planning Commission

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
1A Revised	Classroom Education	School District	Incorporate water quality into curriculum	Study water quality as part of the 7th and 8th grade curriculum at Powdermill School. Mother Nature did not cooperate with school's curriculum plans. The water temperature dropped early leaving few aquatics to observe. The schools opted to postpone the testing until May 2005.	Not originally planned for Year 3. The Powdermill School plans to do the testing in late May after the aquatics start growing. See left for details.
1B Revised	Southwoods Magazine	Con Com/ BOS	Publish stormwater/ water quality info 2x /year	Drinking water results are published annually, with the latest published in June 2004.	Publish stormwater/water quality info twice in the year.
1C Revised	Newspaper Press Releases	BOS	Publish stormwater/ water quality info 2x / year	Newspaper articles published on Town Cleanup Day, Hazmat Collection Day, Annual Lake Cleanup, Sewer system installation progress and Old Town Beach 319 project. In addition, there were numerous articles on the DPW enforcing various illicit discharge and construction project NPDES issues.	Publish stormwater/water quality info twice in the year.
1D Revised	Local Cable Access	BOS	Post stormwater/water quality info 2x/ year	Taped and televised reruns of "Town Cleanup" and "Annual Lake Cleanup" (See BMP 2C).	Post stormwater/water quality info twice in the year.
1E Revised	Lakeside Kiosks	LMC	Post stormwater/water quality info 2x/ year	Handout information on exotic species to boaters launching at two State Boat Ramps. Also, "No Weeds In/No Weeds Out" signs posted at launches	Post stormwater/water quality info twice in the year.

1F	Community Website	BOS	Post stormwater/water quality info 2x/ year	CRC and Commonwealth of Massachusetts websites are linked through the Town's website; LMC, ConCom and Community Preservation Committee also have pages on the Town website. DPW web pages include information on Highway Division activities including catch basin repairs and cleaning, street sweeping and roadside cleanup. Town Cleanup Day was publicized on Town Website. These pages will be expanded to include stormwater information as the program develops.	Post stormwater/water quality info twice in the year.
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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
2A	Wetland Cleanup	Cub Scouts/ Con Com	Support interested groups with trash pickup. Cub Scouts annual wetland cleanup.	During 2004, Cub Scout Pack 118 had two clean-up days at the swamp by Great Brook near Town Hall, planted trees in a Town open-space area and a clean-up day at the Town Sofinowski Land Preserve. Con Com & DPW also participated.	Continue to support interested groups by collecting trash bagged by participants. Support/direct Cub Scout annual wetland cleanup.
Revised					
2B	Student Water Quality Monitoring	School Dept.	Conduct water quality sampling and analysis.	Conduct water quality sampling and analysis. Mother Nature did not cooperate with school's curriculum plans. The water temperature dropped early leaving few aquatics to observe. The schools opted to postpone the testing until May 2005.	Not originally proposed in Year 3. However, water quality sampling and analysis is proposed for May 2005 as described at left.
Revised					

2C Revised	Annual Lake Cleanup	CRC	Conduct cleanup day	CRC and LMC conducted another annual cleanup of Lake Congamond, covering 5 – 6 miles of shoreline, tributaries and wetlands on May 1, 2004.	Hold lake cleanup day in summer 2005. The cleanup day is scheduled for May 1, 2005.
2D Revised	Lakeside Maintenance	LMC	Maintain trash receptacles at Lake	LMC continued to maintain ~25 trash receptacles at public access points to Lake Congamond.	Continue to maintain trash receptacles at public access points to Lake Congamond
2E Revised	Volunteer Water Quality Monitoring	CRC	Conduct water quality sampling & analysis	Water quality sampling & analysis was conducted at Lake Congamond monthly. Analytes include: temperature, pH, dissolved oxygen, conductivity, phosphorus & chlorophyll.	Continue water quality sampling & analysis.

2a. Additions

	Town-Wide Cleanup	CRC/ ConCom/ DPW	Conduct Town-wide Cleanup Day	Promoted Town-wide cleanup on May 1, 2004 where volunteers collected litter from roadsides and throughout Town.	Promoting Town-wide cleanup scheduled for April 23, 2005, where volunteers, with DPW assistance, collect litter from roadsides and throughout Town.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3A Revised	Mapping Stormwater Outfalls	DPW	Develop map of outfalls	DPW & Tighe & Bond field staff identified, inspected and GPS-located storm drain outfalls throughout the Town and catch basins within the urbanized areas of the Town.	Map additional outfalls identified since initial mapping. Set schedule for field inspection.

3B	Develop Illicit Discharge Program	DPW	Draft plan.	DPW has an existing Curtain Drain/ Foundation Drain Policy allowing connection to catch basin. Periodic inspections are conducted by DPW for presence of gray water or bacteria, which would result in disconnection from the system. Through storm drain outfall mapping process, potential illicit connections (sump pumps) were identified and addressed. Non-stormwater by-law drafted.	Prepare new procedures/ plan as necessary.
Revised					
3C	Non-Stormwater By-Law	BOS/DPW	Draft by-law.	Town with the assistance of PVPC has prepared a draft by-law.	Refine by-law and propose to Town Meeting for adoption.
Revised					
3D	Illegal Dumping	DPW	Perform regular patrols/cleanup	DPW performed regular patrols and cleaned up illegal dumped trash.	Continue to perform regular patrols/cleanup.
Revised					
3E	Water Quality Monitoring	BOH	Regular sampling at beach sites in summer	BOH performed weekly sampling at beaches from June through August, 2005.	Continue to perform weekly water quality monitoring at beaches during summer months.
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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
4A	Construction Runoff By-law	PB/ Con Com/ DPW	Draft by-law.	Town with the assistance of PVPC has prepared a draft by-law. Building Department is distributing information packages on NPDES construction and requiring builders to sign off on receipt of package. ConCom, Planning Board and DPW are also informing developers of NPDES requirements and have incorporated proof of NPDES NOI submittal and development of SWPPP as permitting requirement.	Refine by-law and propose to Town Meeting for adoption. Continue to work with developers to incorporate BMPs during construction activities.
Revised					
4B	Plan Review	PB/ Con Com/ DPW	Enforcement under by-law	Continued plan review per existing regulations. By-law enforcement proposed Years 3-5.	Continue plan review per existing regulations. By-law enforcement proposed Years 3-5.
Revised					
4C	Inspection / Reporting	DPW/PB/ Con Com	Enforcement under by-law	Continued inspection / reporting under existing regulations. By-law enforcement proposed Years 3-5. Town officials have worked with developers to ensure compliance with required BMPs during construction.	Continued inspection / reporting under existing regulations. By-law enforcement proposed Years 3-5.
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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
5A	Post Construction Runoff By-law	PB/ Con Com/ DPW	Draft by-law.	Town with the assistance of PVPC has prepared a draft by-law. Draft by-law was presented to Planning Board by DPW with favorable response for adoption.	Refine by-law and propose to Town Meeting for adoption.
Revised					
5B	Construction Site Plan Review	PB/ Con Com/ DPW	Enforcement under by-law	Continued plan review per existing regulations. By-law enforcement proposed Years 3-5.	Continue plan review per existing regulations. By-law enforcement proposed Years 3-5.
Revised					
5C	Stormwater System Maintenance Plan	PB/Con Com/ DPW	Enforcement under by-law	Continued inspection / reporting under existing regulations. By-law enforcement proposed Years 3-5.	Continued inspection / reporting under existing regulations. By-law enforcement proposed Years 3-5.
Revised					
Revised					
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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
6A	Municipal Maintenance Activity Program	DPW/ PRC	Evaluate and draft additional policies	All roads swept as part of spring cleanup. All catch basins are vacuumed 1x/year after sweeping, some 2x/year (by lakes). Draft Good Housekeeping Manual developed in March 2005.	Continue with annual sweeping program. Draft new policies as necessary.
Revised					
6B	Training of all municipal employees	DPW	Initial good housekeeping training	In-house training is done for new hires or anyone transferring within DPW. Good housekeeping training attended by Town Officials and DPW staff on March 15, 2005.	Conduct good housekeeping training.
Revised					
6C	Catch Basin Cleaning Program	DPW	Clean 90% of catch basins annually	97% of town catch basins within urbanized area were cleaned in the months of September, October and November, 2004. During 2004, DPW replaced 4 inaccessible concrete flat-top sumpless catch basins with deep sump basins and standard grates.	Clean 90% of catch basins.
Revised					
6D	Street Sweeping & Cleaning	DPW	Sweep 90% of streets annually	100% of paved town streets within urbanized area were swept in the months of April, May and June, 2004. Approximately 25% of streets within urbanized area were swept twice.	Sweep 90% of streets.
Revised					
Revised					

6a. Additions

	Exotic Aquatics Bylaw	LMC		Townspeople voted 11/30/99 to accept LMC proposed "No Weeds In/No Weeds Out" Town bylaw that addresses boats launching on Congamond Lakes – Ramp Attendants inspect boats entering/leaving ramps	Continue reminding public, boat inspection process & giving out handouts on preventing spread of nuisance aquatics
	Waterfowl Bylaw	LMC		Townspeople voted 3/14/02 to accept LMC proposed "No Feed Waterfowl" Town bylaw that setup fines for feeding waterfowl. Ramp Attendants hand out literature on "why" not to feed waterfowl & LMC installed "Do Not Feed Waterfowl" signs at ramps & public areas.	Continue reminding ramp users & public on benefits of not feeding waterfowl (besides fines).
	Stormwater Management	LMC		LMC began seeking Town Funds & matching grants in 1995 to address erosion, sedimentation, etc. LMC received grants in 1995, 1997, 1999 & 2001 for various catch basin, erosion control, sedimentation chambers, etc. New 65-space public parking area designed & built in 1998 adjacent to boat ramp with 100% of stormwater sheet flowing onto grassy area where it percs naturally into ground. Section of North Ramp repaved in 2004 to direct ~50% of stormwater onto grassy area where it percs naturally into ground.	Continue seeking funding for projects in watershed. Town is working with PVPC to apply for 319 grant funds for additional stormwater improvements around the lakes area.

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
7A	No TMDL waters in Southwick				
Revised					

Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

- The Town notes the high involvement of its citizens and various community and lake organizations in improving town-wide environmental conditions.
- Nine (9) weekly water samples were collected and analyzed for coliform at the Town beach, with no samples indicating high coliform counts during the 2004 beach season.
- Water testing over the last five years by Citizens Restoring Congamond, Inc. showed levels of total phosphorus averaging over 20 micrograms/liter. Levels in other western Massachusetts lakes are typically in the (low) single digits indicating that the Congamond lakes are being affected by stormwater runoff.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed -- Currently being covered by DPW, Con Com & Board of Health – Long range staffing & necessary funding being assessed	(y/n)	**Y & N (see left)**
Annual program budget/expenditures		**$25K**

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	**15%**
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.)	**4-5 mi/yr**
Household Hazardous Waste Collection Days		**Normally 1x/yr**
▪ days sponsored (not held in 2003 due to budget cuts; held in 2004, planned for 7/16/05)	(#)	**1 day**
▪ community participation	(%)	**6%**
▪ material collected	(tons or gal)	**~5.5 tons**
School curricula implemented	(y/n)	**Y**

Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted	Adopted
Regulatory Mechanism Status (indicate with "**X**")				
▪ Illicit Discharge Detection & Elimination		X	X	
▪ Erosion & Sediment Control		X	X	
▪ Post-Development Stormwater Management		X	X	
Accompanying Regulation Status (indicate with "**X**")				
▪ Illicit Discharge Detection & Elimination		X	X	
▪ Erosion & Sediment Control		X	X	
▪ Post-Development Stormwater Management		X	X	

Mapping and Illicit Discharges

Outfall mapping complete	(%)	**95%**
Estimated or actual number of outfalls	(#)	**~220**
System-Wide mapping complete (in urbanized area)	(%)	**95%**
Mapping method(s)		
▪ Paper/Mylar – Some older developments & projects	(%)	**X**
▪ CADD – Some newer developments & projects	(%)	**X**
▪ GIS – Town-wide GIS Warrant Article for Town voters in May 2005 Town Meeting.	(%)	**X**
Outfalls inspected/screened	(# or %)	**~204**
Illicit discharges/connections identified (4 possible outfalls + 7 sump pump discharges to storm sewers)	(#)	**4**
Illicit discharges/connections removed (Corrective action work initiated on 2 of 4 outfalls & other 2 being evaluated; 4 of 7 sump pump discharges already corrected, remaining 3 property owners receiving 2nd notice)	(#) (est. gpd)	**See details at left**
% of population on sewer	(%)	**25%**
% of population on septic systems	(%)	**75%**

Construction

Number of construction starts (>1-acre) Approximately 50% of starts exceed 1 acre.	(#)	**36**
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	**75%**
Site inspections completed	(# or %)	**~75**
Tickets/Stop work orders issued	(# or %)	**8**
Fines collected	(# and $)	
Complaints/concerns received from public	(#)	**20-30**

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	**75%**
Site inspections completed	(# or %)	**~30**
Estimated volume of stormwater recharged – DPW now requiring infiltration trenches/structures for roof water on all new housing starts and retroactive for construction in critical areas.	(gpy)	**See left for info.**

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	**1 times/yr**
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	**1 times/yr**
Total number of structures cleaned	(#)	**~1100**
Storm drain cleaned (jet rodded)	(LF or mi.)	**~500'**
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	**900 – 1000 tons (dry wt.)**

Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		**Town landfill / compost**
Cost of screenings disposal (All basin & storm drain cleaning performed as contract service ($30K)) DPW has requested $210K in FY06 to purchase vacuum/jet-rod truck, most of cost to be offset by transfer from "contract services" to purchase debt & interest.	($)	**~$30K (2004)**

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	**1 times/yr**
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	**1 times/yr**
Qty. of sand/debris collected by sweeping	(lbs or tons)	**1200 - 1300 tons**
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	**Town landfill / compost**
Cost of sweepings disposal (All sweeping performed as contract service ($27K))	($)	**$0**
Vacuum street sweepers purchased/leased (Part of FY06 DPW capital plan approved by Selectmen, Finance & Capital Committees and going to voters 5/17/05)	(#)	**See left**
Vacuum street sweepers specified in contracts	(y/n)	

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

Anti-/De-Icing products and ratios (sand/salt mix is typically 4:1 or all sand)	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	**15% NaCl** **5% $CaCl_2$** **0% $MgCl_2$** **0% CMA** **0% Kac** **0% KCl** **80% Sand**
Pre-wetting techniques utilized	(y/n)	**Y**
Manual control spreaders used	(y/n)	**Y**
Automatic or Zero-velocity spreaders used	(y/n)	**N**
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	**Y**
Storage shed(s) in design or under construction – New larger storage facility 2005 funding requested	(y/n)	