TOWN OF MARSHFIELD
870 Moraine Street
Marshfield, Massachusetts 02050-3498

Office Of
Department of Public Works

2005 APR -4 P 3:19

03

March 31, 2005

United States Environmental Protection Agency
Water Technical Unit (WTU)
P.O. Box 8127
Boston, Massachusetts 02114

Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street
Worcester, Massachusetts 01608

RE: NPDES Phase II Small MS4 General Permit
Town of Marshfield, Massachusetts Annual Report
MADEP Transmittal No. W-036194
EPA Permit Number MA 041048

To Whom It May Concern:

The Town of Marshfield, Massachusetts is pleased to provide you with the attached National Pollutant Discharge Elimination System (NPDES) Phase II Small MS4 General Permit Annual Report for the period from March 2004 to March 2005.
Should you have any questions, do not hesitate to call me at (781) 834-5575. The contact person for this project is Rod Procaccino, Town Engineer.

Sincerely,

Jeb

Jeb Deloach P.E.

Supt. of Public Works

cc: John Clifford, Town Administrator

Municipality/Organization: Town of Marshfield, MA

EPA NPDES Permit Number: MA041048

MADEP Transmittal Number: W- 036194

Annual Report Number
& Reporting Period: No. 1: March 04-March 05

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: **Rod Procaccino** Title: **Town Engineer**

Telephone #: **781-834-5575** Email:
Rprocaccino@townofmarshfield.org

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: **Rod Procaccino**

Title: **Town Engineer**

Date: **March 30, 2005**

Part II. Self-Assessment

The Town of Marshfield's stormwater management activities for the second
Year of the General Permit (March 2004 through March 2005) were in compliance with the Notice of Intent (Massachusetts DEP form BRP WM 08A) and schedule submitted dated July 21, 2003. The following assessment of activities that were included in the plan are provided below:

Public Education: 1. Continue Partnership with North and South River Watershed Association (NSRWA) (BMP ID No.1)

The Town applied and obtained a grant through the Coastal Pollutant Program (CPR) Storm water Management Watershed Assessment for tributary to the South River in the Town of Marshfield. Town officials met with NSRWA on January 5, 2004 to discuss the proposed scope of work outlined in the grant. Both the Town and NSRWA participated in the assessment study conducted in the Spring 2004. The Final Report "Stormwater Management Watershed Assessment for Tributary to the South River in the Town of Marshfield" was completed in June 2004. A Town staff workshop and Public workshop was held Wednesday June 23, 2004. The Workshop was sponsored by the Massachusetts Office of Coastal Zone Management (CZM), North and South River Watershed Association (NSRWA), Marshfield Conservation Commission, and Marshfield Planning Board. DPW staff attended the workshops and provided backhoe and dump truck with operators for test pits required for the study. The Town of Marshfield together with the Town of Duxbury and the Town of Plymouth, applied and obtained a non-source pollution grant from MACZM. NSRWA participated in the project. A model Stormwater Bylaw was developed to set standards for pollutant reduction from development and redevelopment projects, encourage ground water recharge, and to enable storm water permitting systems to be implemented at the Town level. The Stormwater Bylaw was completed and presented as workshops held on January 13, 2005 for officials and a workshop open to the general public in the three Towns participating in the project:

Duxbury January 25, 2005

Plymouth January 27, 2005

Marshfield February 1, 2005

The Town Planner, DPW Engineering Staff and the Towns Conservation Agent attended several meetings and participated in the workshops with the Consultant to develop the Stormwater Bylaw. (Website - http://www.townofmarsfield.org)

2. Develop Brochures: (BMP ID No. 2)

The Town added language to the Water Quality Report to emphasize aquifer protection and newly created Open Space Plan. This information is sent out on an annual basis. The Town was awarded **first place** for the Water Quality Report (2003) submitted in 2004 for medium size water systems in New England. The water quality report was sent out to all customers representing 98% of the Town.

Brochures were sent out to residents by a firm named Greenscapes through a contract with the Town. The brochures promoted alternative landscaping, ground water recharge and water conservation through workshops advertised.

3. Develop Web Site for Public Service Posting: (BMP ID No. 3)

The IT department has developed the Town wide website and is responsible for it's maintenance. Visit the Town's website at http://www.townofmarsfield.org

The Water Quality Report, the DPW's Operational Plan and **new DPW monthly report** is posted on the Town's website

Public Participation: 1. Water Quality Testing (BMP ID No. 4)

The NSRWA volunteers and the Town's consultant conducted water quality sampling of the South River. The South River is on the Massachusetts 303(d) list of impaired waters for pathogens. Sampling and testing was scheduled earlier in the spring but was delayed, and eventually completed in June 2004. There were 5 sites selected based on information from a prior study conducted in 1993. The samples were taken after a rain event and tested for fecal coliform. The range of results was 6 to 2500 FC /100mL with an average of about 1200. Twelve sites were analyzed for BMP's. The Town is currently designing one of those BMP's.

2. Community Cleanup Days (BMP ID No. 5)

The Town conducted its annual cleanup day in May 2004 (Rid Litter day) The next Rid litter day is scheduled for April 30, 2005.

3. An open space committee with representation from the DPW, Town Assessors, and Conservation Commission and other volunteers from the general public developed an open space plan. The draft plan was created for the purpose of maintaining open space throughout the Town. Evaluation criteria was developed in order to rate properties of interest. Watershed protection was the highest priority included in the evaluation criteria. The DPW developed a Draft Drinking Water Land Acquisition plan for watershed protection. The Town acquired its first piece of land (9 acre parcel) for watershed protection

through the CPA program after receiving approval from the open space committee. The Town received a watershed protection grant in the amount of $410,000 for the purchase of a 7-acre parcel and is pursuing remaining funding from Town Meeting this April.

Illicit Discharge Detection and Elimination:

1. Catch basin/Outfall and Receiving Water Mapping (BMP ID No. 6)

The Town took steps to develop GIS Mapping capabilities. The Town's IT dept. contracted to have the Town flown over to conduct photography in March 2004 in order to obtain the most up to date information at a very high resolution. The Town was last flown over in 1975. A contract was issued to develop the GIS system, which included limited planimetric mapping. The mapping was completed fall of 2004. Approximately 80 percent of the Towns 4500 catch basins, manholes, and outfalls, along with receiving waters were presented on 40 scale maps. The Town plans to start the field verification process this spring.

The Town hired a consultant to inventory outfall locations. The location coordinates and description of each of the 569 outfall locations was field verified and plotted on a GIS generated map of the Town.

2. Water Quality Testing (BMP ID No.4)

A total of 55 of the 569 outfall locations (previously identified) were screened to determine size condition, flow condition, PH, Temperature, Specific Conductance and Total Dissolved Solids. A total of thirteen samples were taken from water bodies and two outfalls were field screened, sampled and analyzed for Temperature, PH, Conductivity, Total Suspended Solids, E-Coli, TKN, Soluble Phosphorous, Total Phosphorous and Total Suspended Solids during dry weather. There were elevated E-coli levels in 9 of the 13 samples. There was elevated TKN and TSS in 1 of 13 water body samples. One of the outfalls had elevated conductivity, which was most likely caused by seawater leaking by the adjacent tide gate. The wet weather sampling is scheduled for Spring 2005. The current estimate for total number of outfalls is 962. The Town will continue to field screen, and field locate the remaining outfalls over the course of the year.

3. Regulatory Review (BMP ID No. 7)

The Town of Marshfield, Town of Duxbury, and the Town of Plymouth applied for and received a grant to develop a model storm water management bylaw this past year. The three Towns received a grant and work will commence to develop regulations in the summer of 2004. Implementing this Bylaw will be difficult based on the projected fiscal crisis the Town will face over the next few

years.

Construction Site Runoff Control:

1. Regulatory Review (BMP ID No. 7)

Storm water management measures are required by subdivision regulation. Historically, these structures required by regulation fail during the construction phase. The BMP's are often short circuited during the initial phases of construction. Town officials have had to issue stop work orders to several developers during the past permit year. The developers were instructed to take corrective action. The DPW, Conservation Dept. and Planning Dept. have recognized the need to require more detailed explanation of construction methods being proposed. Erosion control plans, and proper construction sequencing should be addressed in the model bylaws and corresponding regulations are being developed.

2. Permit Enforcement (BMP ID No. 8)

The Town has issued stop work and enforcement orders on the following subdivisions to address erosion control problems during construction:

Peregrine Woods located on South River St. (Still under Construction)
Spy Glass Landing located off Grove St. (Still under Construction)

3. Misconnection/ Illegal Dumping (BMP ID No. 9)

The Town had not discovered any illegal connections or illegal dumping impacting storm water over the past year. The Town has contracted with a consultant to document 400 storm water outfall locations. Photographs were included in the scope of work. Additional field work will be required after locations are added to the new mapping to verify connectivity. There is adequate funding to hire a part time engineer to field verify connectivity over the next several months.

Post Construction Site Runoff Control

1. Regulatory Review (BMP ID No. 7)

Several extreme rainfall events occurring just prior to this permit period alerted Town officials to capacity issues with existing drainage structures. During these recent storm events, flooding conditions caused significant erosion and sediment problems to brooks and ponds. Increased development has definitely impacted existing infrastructure despite of regulation in place. Several problem areas

have been identified and the Town is formulating a plan to address at least two specific problems. The Town will be formulating a master drainage plan as part of the newly created DPW Operation Plan.

Telegraph Hill and Stony Brook Subdivision impact to South River St. The Town is currently seeking funding to construct catch basins and culverts to resolve a flooding issue.

Telegraph Hill Subdivision impact to Peregrine White Drive. The Town is pursuing a moratorium on building within the area for one year until a plan can be developed to address the problem.

2. Permit Enforcement (BMP ID No. 8)

The Contractors from both subdivisions had originally agreed to participate to correct the South River St. drainage problem mentioned above however it is uncertain at this time when these issues will be resolved.

Municipal Good House Keeping:

1. Improved Street sweeping (BMP ID No. 11)

The Town had implemented a plan to sweep the entire Town during the spring of 2004. Additional funding was obtained to allow the DPW to hire a private contractor to work together with the DPW sweeping operation to expedite the sweeping of the entire Town to reduce impact to the drainage system. The additional funding is not available for spring of 2005. The Town will conduct street sweeping at a much slower pace.

2. Improved Catch Basin Cleaning (BMP ID No. 12)

The Town's new Operations Director conducted an investigation of the Departments past practices of catch basin cleaning. There are approximately 1200 manholes, 3200 catch basins and 100 drop- inlets that require extensive cleaning. Based on current productivity, plans were made to obtain additional funding to hire a private contractor to expedite the process. The contractor and Town completed the comprehensive cleaning of catch basins and manholes. An extensive evaluation of the drainage system was conducted and approximately 400 catch basins are in need of masonry repair or outright replacement during the next permit period. This work will be accomplished partly with in house staff and by contract through state funding.

3. Household Hazardous Waste Days: (BMP ID No. 13)

The Town conducted its Household Hazardous Waste Day on 9-18-04 and continues to participate in the South Shore Recycling Organization. As a member of this organization residents are allowed to participate throughout the year in hazardous waste collection days offered by surrounding member Towns.

4. Drain Stenciling: (BMP ID No. 14)

The Town has taken no action to date.

BMP's for Meeting TMDL:

1. GIS Mapping Priority Waters and Drainage Patterns (BMP ID No. 6)

The Towns GIS program is under way and the DPW obtained planimetric mapping in the fall of 2004. The new photography will serve as the basis for developing a new Geographic Information System (GIS) of the storm drain system, receiving waters and watersheds. The Town moved forward and is currently developing new contour maps and digital photographs of the Town as it pursues development of a GIS system. This information should be available in May 2005. Funding is being sought for Assessor Map development.

Water Quality Testing (BMP ID No. 4)

Water quality testing was performed in the downtown area. Outfalls were identified and connectivity was verified in June 2004. BMP's were evaluated and construction and maintenance costs presented for 12 possible sites. One BMP is being designed.

2. Storm Water Modeling (BMP ID no. 15)

No action taken to date.