FOR COMMENT

Stormwater Management Plan

MA MS4 General Permit Requirements

Prepared for:
Marshfield, Massachusetts

EPA NPDES Permit Number: MA041048

June 2019

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Certification

Authorized Representative (Optional): All reports, including SWPPPs, inspection reports, annual reports, monitoring reports, reports on training and other information required by this permit must be signed by a person described in Appendix B, Subsection 11.A or by a duly authorized representative of that person in accordance with Appendix B, Subsection 11.B. If there is an authorized representative to sign MS4 reports, there must be a signed and dated written authorization.
The authorization letter is:

☐ Attached to this document (document name listed below)

☐ Publicly available at the website below

"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 gathered and evaluated 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."

Printed Name Rod Procaccino, Town Engineer

Signature _____ Date

Small MS4 Authorization

The NOI was submitted on September 28, 2018

The NOI can be found at the following (document name or web address):

https://www3.epa.gov/region1/npdes/stormwater/ma/tms4noi/marshfield.pdf

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Authorization to Discharge was granted on March 5, 2019

The Authorization Letter can be found (document name or web address):

https://www3.epa.gov/region1/npdes/stormwater/ma/tms4noi/marshfield-auth.pdf

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

VIA EMAIL

March 5, 2019

Michael A. Maresco
Town Administrator

And;

Rod Procaccino & Paul Tomkavage
Town Engineer
870 Moraine Street
Marshfield, MA. 02050
rprocaccino@townofmarshfield.org & ptomkavage@townofmarshfield.org

Re: National Pollutant Discharge Elimination System Permit ID #: MAR041048, Town of Marshfield

Dear Rod Procaccino & Paul Tomkavage:

The 2016 NPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems in Massachusetts (MS4 General Permit) is a jointly issued EPA-MassDEP permit. Your Notice of Intent (NOI) for coverage under this MS4 General Permit has been reviewed by EPA and appears to be complete. You are hereby granted authorization by EPA and MassDEP to discharge stormwater from your MS4 in accordance with the applicable terms and conditions of the MS4 General Permit, including all relevant and applicable Appendices. This authorization to discharge expires at midnight on **June 30, 2022.**

For those permittees that certified Endangered Species Act eligibility under Criterion C in their NOI, this authorization letter also serves as EPA's concurrence with your determination that your discharges will have no effect on the listed species present in your action area, based on the information provided in your NOI.

As a reminder, your first annual report is due by **September 30, 2019** for the reporting period from May 1, 2018 through June 30, 2019.

Information about the permit and available resources can be found on our website: https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit. Should you have any questions regarding this permit please contact Newton Tedder at tedder.newton@epa.gov or (617) 918-1038.

Sincerely,

Thelma Murphy, Chief
Stormwater and Construction Permits Section
Office of Ecosystem Protection
United States Environmental Protection Agency, Region 1

and;

Lealdon Langley, Director
Wetlands and Wastewater Program
Bureau of Water Resources
Massachusetts Department of Environmental Protection

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1.0 BACKGROUND

1.1 Stormwater Regulation

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in EPA's effort to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II program expands the Phase I program by requiring additional operators of MS4s in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to control polluted stormwater runoff. Phase II is intended to further reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Under the Phase II rule all MS4s with stormwater discharges from Census designated Urbanized Area are required to seek NPDES permit coverage for those stormwater discharges.

1.2 Permit Program Background

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 small MS4 permit) consistent with the Phase II rule. The 2003 small MS4 permit covered "traditional" (i.e., cities and towns) and "non-traditional" (i.e., Federal and state agencies) MS4 Operators located in the states of Massachusetts and New Hampshire. This permit expired on May 1, 2008 but remained in effect until operators were authorized under the 2016 MS4 general permit, which became effective on July 1, 2018.

1.3 Stormwater Management Plan (SWMP)

The SWMP describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP accurately describes the permittees plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions during the permit term. The main elements of the stormwater management program are (1) a public education program in order to affect public behavior causing stormwater pollution, (2) an opportunity for the public to

participate and provide comments on the stormwater program (3) a program to effectively find and eliminate illicit discharges within the MS4 (4) a program to effectively control construction site stormwater discharges to the MS4 (5) a program to ensure that stormwater from development projects entering the MS4 is adequately controlled by the construction of stormwater controls, and (6) a good housekeeping program to ensure that stormwater pollution sources on municipal properties and from municipal operations are minimized. The hyperlinks provided in Appendix A offer additional information and supporting documents related to the MS4 Permit and the aforementioned minimum control measures.

1.4 Town Specific MS4 Background

The Town must give special consideration to and meet eligibility requirements for their discharges to be able to apply for coverage under the General Permit. Eligibility will be determined based on three categories: Endangered Species Act, National Historic Preservation Act, and Water Quality Impaired Waters. The Town must establish that discharges from its storm drain system do not adversely impact endangered species, critical habitats, and historic properties in order to be covered by the General Permit. Furthermore, the Town must identify all receiving waters that have been classified as Water Quality Impaired Waters by the MA DEP. The Town of Marshfield and its surrounding water bodies are shown on *Figure 1: System Locus*. The Notice of Intent (NOI) for coverage under the Small MS4 General Permit was submitted to EPA and MassDEP on September 28, 2018. A copy of the NOI is provided in Appendix B.

2.0 SWMP COMPONENTS

2.1 Parties Involved in Implementation

Stormwater programs in the Town of Marshfield are currently a responsibility of the Town Engineer, Rod Procaccino. The Town has not yet created/staffed a dedicated stormwater management position or stormwater committee, however the current departments involved in stormwater management are listed in the table below.

Name	Title	Department
Rod Procaccino	Town Engineer	Department of Public Works/Engineering
		NSRWA
		Conservation Committee
		Planning Board
		Zoning Board of Appeals
		DPW Operations

2.2 Documentation Regarding Endangered Species

In order to comply with part 1.9.1 of the NPDES Permit, the Town has attached documentation in Appendix D supporting Marshfield's eligibility determination of Criterion B with regard to federal Endangered and Threatened Species and Critical Habitat Protection. Criterion B states that, "under section 7 of the ESA, the consultation resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by USFWS on a finding that the stormwater discharges and MA MS4 General Permit Appendix C Page 3 of 7 discharge related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation)." In this case, USFWS provided a letter in place of a concurrence letter for informal consultation.

The attachments in Appendix D include the aforementioned letter, as well as the results of the IPaC environmental review process. Using the IPaC environmental review process, four endangered species have been identified within Marshfield's boundaries: the Northern Long-Eared Bat, the Piping Plover, the Red Knot, and the Roseate Tern. None of these species have critical habitats designated within the Town, and the MS4 Permit will not adversely affect any of the listed species within the MS4 area.

2.3 Documentation Regarding Historic Properties

The Town has attached documentation in Appendix E supporting their eligibility determination regarding Historic Properties, in compliance with part 1.9.2 of the Permit. This document, Appendix D of the Massachusetts General MS4 Permit, includes information supporting Marshfield's determination as Criterion A, stating that the discharges do not have the potential to cause effects on historic properties.

Historic site considerations will be evaluated further as part of the design/permitting of new/retrofit BMPs proposed for implementation as part of MS4 compliance. Regarding the National Historic Preservation Act, under 36 CFR 800, this facility is an existing facility authorized by the previous Permit, and is not undertaking any activity involving subsurface land disturbance less than 1 acre. This MS4 Permit will have "no potential to cause effects," in accordance with 36 CFR 800.3(a)(1).

2.4 Documentation Regarding Discharges

Attached in Appendix F is the documentation for tracking any new or increased discharges granted by MassDEP in compliance with part 2.1.2 of the Permit. At this time, the Town of Marshfield has no new and/or increased discharges. The Town will document any new and/or increased discharges on the form provided in Appendix F and include project specific information regarding best management practices implemented for those discharges. A sample discharges form is provided in Appendix F.

2.5 Sanitary Sewer Overflow (SSO) Inventory

In the event of an overflow or bypass, a notification must be reported within 24 hours by phone to MassDEP, EPA, and other relevant parties. The verbal notification should be followed up with a written report following MassDEP's Sanitary Sewer Overflow

(SSO)/Bypass notification form within 5 calendar days of the time you become aware of the overflow, bypass, or backup.

As of October 2018, there are no known SSOs that discharge to the MS4. An inventory of all known locations where SSOs have discharged to the MS4 will be maintained by the Town if any are found. This inventory shall include SSOs resulting from inadequate conveyance capacities, or where interconnectivity of the storm and sanitary sewer infrastructure allows for connection of flow between the systems. A sample inventory form is provided in Appendix G and includes the following information:

1. Location (approximate street crossing/address and receiving water, if any);
2. A clear statement of whether the discharge entered a surface water directly or entered the MS4;
3. Date(s) and time(s) of each known SSO occurrence (i.e., beginning and end of any known discharge);
4. Estimated volume(s) of the occurrence;
5. Description of the occurrence indicating known or suspected cause(s);
6. Mitigation and corrective measures completed with dates implemented; and
7. Mitigation and corrective measures planned with implementation schedules.

2.6 IDDE Program and Bylaws

The Town's IDDE plan will be developed during the first year of the new permit. The IDDE program is detailed in section 3.3 of Minimum Control Measures. The Town's current Stormwater Management and Erosion Control and Illicit Discharge Bylaw is provided in Appendix H.

2.7 Sediment and Erosion Control Procedures

Written procedures for the Town's site inspections and enforcement of sediment and erosion control procedures in accordance with part 2.3.5 of the Permit, Construction Site Stormwater Runoff Control, are detailed in the sections 3.4 and 3.5, Minimum Control Measures. This information includes the party responsible for site inspections and implementation of procedures..

2.8 Public Drinking Water Supply Sources Protection

The town has developed practices in effort to avoid or minimize impacts to surface public drinking water supply sources. These efforts are detailed in Minimum Control Measures section 3.6, Good Housekeeping and Pollution Prevention. The Town plans to prioritize the enforcement of the existing stormwater pollution prevention plans.

2.9 Activities to Monitor Discharges

The Town will identify any discharges within public drinking water supply source areas and give priority to outfall inspections and screening required of the Minimum Control Measures in section 3.0.

2.10 Annual Program Evaluation

To comply with part 4.1 of the Permit, the Town annually self-evaluates compliance with the terms and conditions of the Permit and submits each self-evaluation as part of the Fiscal Year annual report. The 2018 NPDES Phase II Small MS4 General Permit Annual Report is attached as Appendix I.

3.0 MINIMUM CONTROL MEASURES

In effort to reduce pollutants and comply with part 2.3 of the Permit, the Town focuses on the following minimum control measures. These sections describe the Town's practices to comply with each control measure, the responsible person(s) or party of each practice, and the goal(s) for each BMP of each control measure. The BMPs for each of the six minimum control measures are outlined in the forms provided in Appendix J.

3.1 Public Education and Outreach

The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public education program, permit part 2.3.2, is to increase knowledge and change behavior of the public so that the pollutants in stormwater are reduced.

The Town implemented a public education program as required by the 2003 permit and will continue that program and make the necessary adjustments to meet the additional requirements of the 2016 permit.

The program must include the education of the following four audiences: 1. residents, 2. businesses, institutions (churches, hospitals), and commercial facilities, 3. developers (construction), and 4. industrial facilities.

3.1.1 Background

The Town of Marshfield has implemented several actions in efforts to reach public education and outreach goals. The Town added language to the Water Quality Report to emphasize stormwater management and is sent out on an annual basis. The Water Quality Report is mailed to all customers representing 98% of the Town.

The Town continues to partner with North and South River Watershed Association (NSRWA) and Greenscapes Coalition. Part of these partnerships involves the NSRWA Greenscapes Program which includes brochures and reference guides that are on display at the Marshfield town hall, including pet waste information brochures. Presentations were made to Marshfield second graders at the Eames Way School, featuring the "Water All Around You" Program. A Facebook page was set up to feature Greenscapes information

created on a weekly basis including the WaterSmart business program, rain barrel sales, and Gardening Green Expo.

3.1.2 Best Management Practices

I. Distribution of a minimum of two (2) educational messages over the permit term to the required audiences within the permit term (5 years), as listed below.

A. Residents

1. Publish outreach materials; distribute new resident packets to residents within Wetland Protection Areas.
2. Develop/maintain stormwater website and/or utilize Town social media for outreach. Provide specific information directed towards residents.

B. Businesses, Institutions, and Commercial Facilities

1. Include stormwater information in permit materials.
2. Develop/maintain stormwater website and/or utilize Town social media for outreach. Provide specific information directed towards businesses, institutions, and commercial facilities.

C. Developers (Construction)

1. Include stormwater information in permit materials; Review and update application forms to meet the new requirements.
2. Develop/maintain stormwater website and/or utilize Town social media for outreach. Provide specific information directed towards developers.

D. Industrial Facilities

1. Distribute stormwater information to industrial groups based on zoning and property use.
2. Develop/maintain stormwater website and/or utilize Town social media for outreach. Provide specific information directed towards industrial facilities.

3.2 Public Involvement and Participation

The objective of the public involvement and participation control measure, permit part 2.3.3., is for the Town to provide the public with opportunities to engage in activities that promote good stormwater practices. The public must also be given the chance to review the Stormwater Management Plan (SWMP) and its implementation.

3.2.1 Background

Responsible parties for public involvement and participation efforts include the Department of Public Works and Engineering Department. The Town continues its annual "Keep Marshfield Clean" weekend. This past year, 3.77 tons of trash were collected town-wide, with approximately 200 people participating. The Town's solid waste transfer station also supports other neighborhood clean-up efforts. NSRWA participated with the Conservation Department through volunteer programs and removed debris and trash from the river bank and select dead tree and brush from South River, removed litter and vegetative management along bridal path and over conservation land adjacent to Maryland Street.

3.2.2 Best Management Practices

I. Public Review
   - A. Stormwater Management Plan Review (SWMP)
     - *1.* Make SWMP available at least annually for public review.

II. Public Participation
   - A. Use Stormwater Website to publish SWMP and annual reports. Website should contain a space for electronically soliciting public comments.
     - *1.* Make physical copy available at Marshfield Town Hall.

3.3 Illicit Discharge Detection and Elimination (IDDE) Program

The Town shall put an IDDE program into place, permit part 2.3.4, in order to find and eliminate non-stormwater discharge sources. Procedures shall be implemented to fix any prevalent issues in the Town's storm sewer system. As identified in the Notice of Intent (NOI), attached in Appendix B, the following 212 outfall structures listed in the table below discharge to the Town of Marshfield's MS4 area. These outfall structures are displayed on *Figure 2: MS4 Urbanized Areas*.

Waterbody that receives flow from the MS4 and segment ID if applicable	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/ DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Atlantic Ocean	8	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Bares Brook	7	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Bourne Wharf River	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
North River (MA94-05)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	Fecal Coliform, Mercury in Fish Tissue
Furnace Brook	8	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Green Harbor (MA94-11)	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	Fecal Coliform
Green Harbor (River MA94-10)	4	☐	☐	☐	☐	☐	☐	☒	☐	☐	Fish-Passage Barrier, Other Flow Regime Alterations, Excess Algal Growth
Hannah Eames Brook	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Littles Creek	9	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Macombers Creek	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Macombers Creek Reservoir	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
South River (MA94-08)	14	☐	☐	☐	☐	☐	☐	☐	☐	☐	
South River (MA94-09)	19	☐	☐	☐	☐	☐	☐	☐	☐	☐	Fecal Coliform
Unnamed Wetland (42.159905, -70.725599)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.073567, -70.699167)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.076892, -70.673687)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.077267, -70.708458)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.082046, -70.643463)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.088364, -70.729978)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.089828, -70.643763)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.09079, -70.646926)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.092461, -70.657838)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.092791, -70.72559)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.095473, -70.723606)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.099747, -70.701617)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.100851, -70.689664)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.103977, -70.67094)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.105814, -70.666621)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.106502, -70.700457)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.113983, -70.761187)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.114374, -70.749805)	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.122842, -70.766944)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.124541, -70.762833)	11	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.128914, -70.756172)	7	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Waterbody (42.075443, -70.698009)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.062792, -70.662617)	9	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Unnamed Wetland (42.076032, -70.651302)	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.080972, -70.698711)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.082574, -70.648826)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.084659, -70.678125)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.089033, -70.646654)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.100243, -70.70375)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.101439, -70.689518)	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.101691, -70.697233)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.102452, -70.72005)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.102904, -70.747536)	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.103107, -70.666839)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.112024, -70.678515)	9	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.118198, -70.765403)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.12081, -70.709486)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.13249, -70.694761)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.078357, -70.649412)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.137351, -70.767699)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.145927, -70.757999)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	

3.3.1 Background

Responsible parties for IDDE efforts include the Department of Public Works and Engineering Department. The Town of Marshfield is in its 15th year development GIS Mapping capabilities. The Town continues its contract with Maps Online for web accessible mapping. The Town is in the process of developing a new data management system with a vendor for issuing work orders and tracking work.

The Town has hired a consultant to conduct outfall inspections and sampling, and to evaluate the Riverside Circle stormwater sand filter. The connectivity was reviewed and 8 structures were sampled in the field and found to be above the DEP standard of 14MPN/100ml for Coastal Marine Classes. Because this system discharges to the North River, the Town is considering replacing the media.

3.3.2 Best Management Practices

I. Legal Authority

A. The IDDE program shall include adequate legal authority to prohibit illicit discharges; investigate suspected illicit discharges; eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system; and implement appropriate enforcement procedures and actions. Adequate legal authority consists of a currently effective ordinance, by-law, or other regulatory mechanism. For

permittees authorized by the MS4-2003 permit, the ordinance, by-law, or other regulatory mechanism was a requirement of the MS4-2003 permit and was required to be effective by May 1, 2008. For new permittees the ordinance, by-law, or other regulatory mechanism shall be in place within 3 years of the permit effective date.

II. SSO Inventory

A. Develop SSO Inventory Database within one year of effective permit date that logs historical SSOs that have occurred in the last 5 years, as discussed in further detail in section 2.5.

1. Coordinate with Sewer Department for tracking of any future SSOs.

III. Storm Sewer System Map

A. Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit.

1. Make an electronic and physical copy of the map available to the public via the stormwater website and Marshfield Town Hall.
2. Map/verify 10% of system per year during permit years 1-10.
   a) Phase I will be focused on during Years 1 and 2, while Phase II will be focused on during Years 3 thru 10.
3. Integrate system map updates with planned sewer expansion projects.

IV. Written IDDE Program Development

A. Develop and complete written IDDE program within 1 year of effective permit date. The IDDE program and permit attachments will be available at Marshfield Town Hall.

V. Implement IDDE Program

A. Implement catchment investigations according to program and permit conditions within 18 months of the effective date of the Permit.

1. Continue to enforce bylaw.
2. Draft and implement stormwater management regulations.
3. Coordinate water quality monitoring with dry weather screening

a) New monitoring system should include surveying for illicit discharge detection.

VI. Employee Training

A. Coordinate annual stormwater training and incorporate with training required in Section 6.2.IV.B.

VII. Dry Weather Screening

A. Conduct screening in accordance with outfall screening procedure and permit conditions.

1. Screen 25% of outfalls per year during permit years 2-5.

VIII. Conduct Wet Weather Screening

A. Conduct screening in accordance with outfall screening procedure and permit conditions, and as determined by dry weather screening results.

IX. Conduct ongoing screening as necessary, and upon completion of the IDDE program.

3.4 Construction Site Stormwater Runoff Control

The Town must implement a program focused on controlling stormwater runoff from construction sites. The program shall minimize or eliminate erosion on site and maintain the site so that the sediment is not transported in stormwater or allowed to discharge to a water of the U.S. through the permittee's MS4, as stated in part 2.3.5 of the Permit.

3.4.1 Background

The Town of Marshfield has adopted construction site stormwater runoff measures in the subdivision regulations. The Department of Public Works, Engineering Department, Conservation Committee, Planning Board, and Zoning Board of Appeals are all responsible for construction site stormwater runoff control BMPs.

3.4.2 Best Management Practices

I. Site Inspection and Enforcement of Erosion and Sediment Control (ESC) Measures.
   - A. Complete written procedures of site inspections and enforcement procedures within 1 year of effective date of the Permit.
     1. Recommend standards and practices for town inspection procedures. Seek input from relevant town groups (e.g. Building, Health, Conservation, etc.)
     2. Develop inspection form that includes ESC measures and integrate them with existing Town forms.

II. Site Plan Review
   - A. Complete written procedures of site plan review and begin implementation within 1 year of the effective date of the Permit.
     1. Include site plan review workflow chart with permit applications.
     2. Review current Town procedure regarding when a Construction General Permit (CGP) is needed.
        - a) CGP required for disturbance of 1 acre or greater

III. Erosion and Sediment Control Ordinance

A. Adoption of requirements for construction operators to implement a sediment and erosion control program within 1 year of the effective date of the Permit.

1. Set limit of 1 acre before project requires inspection by Town official.

a) Coordinate limits and requirements with fill/extraction permits.

2. Update all Town forms with erosion and sediment control checklist.

IV. Waste Control

A. Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes within 1 year of the effective date of the Permit.

1. Incorporate into Town's general conditions for building permit and/or site plan review.

2. Review and modify Town bylaw to meet new requirements.

3.5 Post Construction Stormwater Management in New Development and Redevelopment

The objective of an effective post construction stormwater management program, part 2.3.6 of the Permit, is to reduce the discharge of pollutants found in stormwater to the MS4 through the retention or treatment of stormwater after construction on new or redeveloped sites and to ensure proper maintenance of installed stormwater controls.

3.5.1 Background

The Town of Marshfield along with a consultant conducted a review of their regulatory compliance of the NPDES permit in 2012. Draft stormwater management regulations were developed and presented to the Board of Public Works on February 6, 2012 to address site plan review for new development and exemptions. The Board adopted the new regulations on August 20, 2012. The Department of Public Works, Engineering Department, Planning Board, and the Zoning Board of Appeals are all responsible for stormwater management in new and redevelopment.

3.5.2 Best Management Practices

I. Post-Construction Ordinance
   A. The permittee shall develop or modify, as appropriate, an ordinance or other regulatory mechanism within two (2) years of the effective date of the permit.

II. As-Built Plans For On-Site Stormwater Control
   A. Require submission of electronic data for as-built drawings (e.g. PDF, AutoCAD, GIS) within 2 years of completed construction.
      1. O&M certification should include contact and contract information for contractors that perform O&M on the private BMPs.

III. Inventory and Priority Ranking of MS4-Owned Properties That May Be Retrofitted with BMPs
   A. Conduct detailed inventory of MS4 owned properties and rank for retrofit potential within 4 years of permit effective date.

1. Inventory Town parcels for existing stormwater BMPs and identify opportunities for GI/LID retrofits.
    a) Include schools, parks, recreation facilities, police/fire/EMS, libraries, public works, and town administrative offices.

IV. Allow Green Infrastructure

A. Within 4 years of permit effective date, develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist

1. Review bylaws and applications in order to incorporate green infrastructure and low impact development language as needed.
2. Educate the public on green infrastructure through existing BMP retrofits/demonstration projects.

V. Street Design and Parking Lot Guidelines

A. Within 4 years of permit effective date, develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options

1. Publish street design and parking lot guidelines on stormwater website.

VI. Ensure any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality.

A. Within 2 years of permit effective date, adopt, amend, or modify regulation mechanisms to meet permit requirements.

1. Review rules and regulations and modify as needed. Include evaluation of subdivision/redevelopment requirements for long-term operations and management of private BMPs.
    a) Work to establish cash (instead of bond) surety with developers to create binding obligation to keep stormwater runoff onsite.
2. Continue to implement Post-Construction Site Runoff Control Bylaw.

3.6 Good House Keeping and Pollution Prevention for Permittee Owned Operations

An operations and maintenance program must be implemented by the Town for Town-owned operations. The program shall focus on preventing or reducing pollutant runoff and protecting water quality from Town operations.

3.6.1 Background

The Marshfield Department of Public Works swept 80 miles of roadways within the Town, yielding 65 CY of sediment. A sediment critical area was established with the tributary area of Bass Creek, requiring additional sweeping. Ditches were cleaned by mosquito control in the Bass Creek area as well. Catch basins were cleaned on Foster Avenue after the January coastal storm. Extensive flooding and erosion in the area of Brook Street due to a breach in the seawall batter boards required a signification cleanup effort. The Town removed over 1,000 CY of sediment from the streets in Brant Rock, and from other streets adjacent to the coast. Over $350,000 in contract services to clean the area was spent due to the coastal storms in January and March 2018. The Department of Public Works, Engineering Department, and Conservation Committee is responsible for pollution prevention BMPs.

3.6.2 Best Management Practices

I. Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment within 2 years of permit effective date.
   A. Develop standards of practice for O&M of each public facility and combine in Town O&M Manual.

II. Inventory all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment within 2 years of the permit effective date.
   A. Develop a capital improvement plan that deals with flooding prevention measures and water quality improvements.
      1. Coordinate implementation with Section 5.2.II of the Permit.

III. Establish and implement program for repair and rehabilitation of MS4 infrastructure within 2 years of the permit effective date.
    A. Inspect assets and assess condition to develop program
    B. Review annual budget to set aside funding.
IV. Stormwater Pollution Prevention Plan (SWPPP) For Maintenance Garages, Transfer Stations and Other Waste-Handling Facilities.
    A. Develop plan within 2 years of permit effective date.
    B. Schedule annual employee training.
        1. Look into workshop and speaking opportunities and seek formal training for all departments
    C. Develop an asset management system to process complaints, permits, inspections, and maintenance.
    D. Continue to implement improved recycling standards and requirements.
        1. Advertise rigid plastic and antifreeze recycling to public. Enforce new standards for private haulers.
V. Catch Basin Cleaning
    A. Develop and maintain a cleaning schedule.
    B. Develop electronic data collection system for tracking, inspection, and maintenance.
        1. Update catch basin cleaning services RFP requirements to require electronic data collection that is compatible with the Town's GIS and asset management system.
VI. Street Sweeping Program
    A. Continue to implement street sweeping program.
VII. Road Salt Use Optimization Program
    A. Continue working on salt reduction strategies.
        1. Calibrate spreaders to reduce salt use.

4. WATER QUALITY BASED REQUIREMENTS

In compliance with the Clean Water Act (CWA), each state must administer a program to monitor and assess the quality of its surface and groundwater. Section 305(b) process of the CWA entails assessing each use for rivers, lakes, and coastal waters, and causes and sources of impairment are identified wherever possible. Section 303(d) of the CWA along with the regulations at 40 CFR 130.7 requires states to identify those water bodies that are not expected to meet surface water quality standards (SWQS) after the implementation of technology based controls, and prioritize them for the development of Total Maximum Daily Loads (TMDLs). A TMDL establishes the maximum amount of a pollutant that may be introduced into a water body and still ensure attainment and maintenance of water quality standards. The 303(d) *List of Impaired Waters* (303(d) List) lists each water body in one of the following five categories:

1) Unimpaired and not threatened for all designated uses;
2) Unimpaired for some uses and not assessed for others;
3) Insufficient information to make assessments for any uses;
4) Impaired or threatened for one or more uses, but not requiring the calculation of a TMDL; or
5) Impaired or threatened for one or more uses and requiring a TMDL.

Waters listed in Category 5 constitute the 303(d) List and are to be reviewed and approved by the EPA. An abbreviated version of *Table 1: Impaired Waters, TMDLs and Impairments* is shown below, and is also represented in Appendix B, the Notice of Intent. An overall map of the Town of Marshfield's stormwater system is attached as *Figure 4: Stormwater System Map*.

Name	Segment ID	Description	Size	Units	Impairment Cause
South River	MA94-09	From dam at Main Street, Marshfield to confluence with North River/Massachusetts Bay, Marshfield/Scituate.	0.625	SQUARE MILES	Fecal Coliform
Green Harbor River	MA94-10	Outlet Black Mountain Pond, Marshfield to the tidegate at Route 139, Marshfield.	5.648	MILES	(Fish-Passage Barrier*) (Other flow regime alterations*) Excess Algal Growth Turbidity
Green Harbor	MA94-11	From the tidegates at Route 139, Marshfield to the mouth of the harbor at Massachusetts Bay/Cape Cod Bay, Marshfield	0.078	SQUARE MILES	Fecal Coliform
North River	MA94-05	Confluence of Indian Head River and Herring Brook, Hanover/Pembroke to Route 3A (Main Street), Marshfield/Scituate.	0.302	SQUARE MILES	Fecal Coliform Mercury in Fish Tissue

4.1 Background

These best management practices aim to improve and mitigate stormwater water quality impairments. This program will focus on impaired waters requiring a TMDL in the South Coastal Watershed, shown on *Figure 3: Town Watersheds*.

The entirety of the Town is located within the South Coastal Watershed. This area can be seen on *Figure 3 – Town Watersheds*. The South Coastal Watershed has an approved TMDL for bacteria and pathogens. These impairments require the Town to follow the specific requirements listed under Appendix H to mitigate bacteria and pathogen discharges from the MS4 to the respective watershed. The Marshfield Public Works Department is responsible for adhering to these requirements.

The Massachusetts category 5 impaired waters requiring a TMDL in Marshfield are all located within the South Coastal watershed. As shown in *Table 1 – Impaired Waters, TMDLs and Impairments*, these water bodies include South River, North River, Green Harbor, and Green Harbor River. The Town should prioritize sampling outfalls to these water bodies for their respective impairments, also listed in *Table 1*. The Marshfield Public Works Department is the primary party responsible for the BMPs to meet these TMDL requirements.

4.2 Additional Impairment Requirements

4.2.1 Public Education and Outreach

A. Bacteria or Pathogens

- Distribute an annual message that encourages the proper management of pet waste, including noting any existing ordinances where appropriate.
- Disseminate educational materials to dog owners at the time of issuance or renewal of dog license, or other appropriate time.
- Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens.

4.2.2 Stormwater Management in New Development and Redevelopment

A. Solids, Oil and Grease, or Metals

- Incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or unexpected event.
- Require any stormwater management system designed to infiltrate stormwater on commercial or industrial sites to provide the level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration of the same volume of runoff to be infiltrated, prior to infiltration.

4.2.3 Good House Keeping and Pollution Prevention

A. Solids, Oil and Grease, or Metals

- Increase street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads.
- Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full. Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.

4.2.4 Illicit Discharge

A. Bacteria or Pathogens

- Implement the illicit discharge program required by the Permit. Catchments draining to any water body impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

At any time during the permit term the permittee may be relieved of additional requirements in Appendix H applicable to it when in compliance with the requirements in Appendix H.

TABLE 1

IMPAIRED WATERS, TMDLS AND IMPAIRMENTS

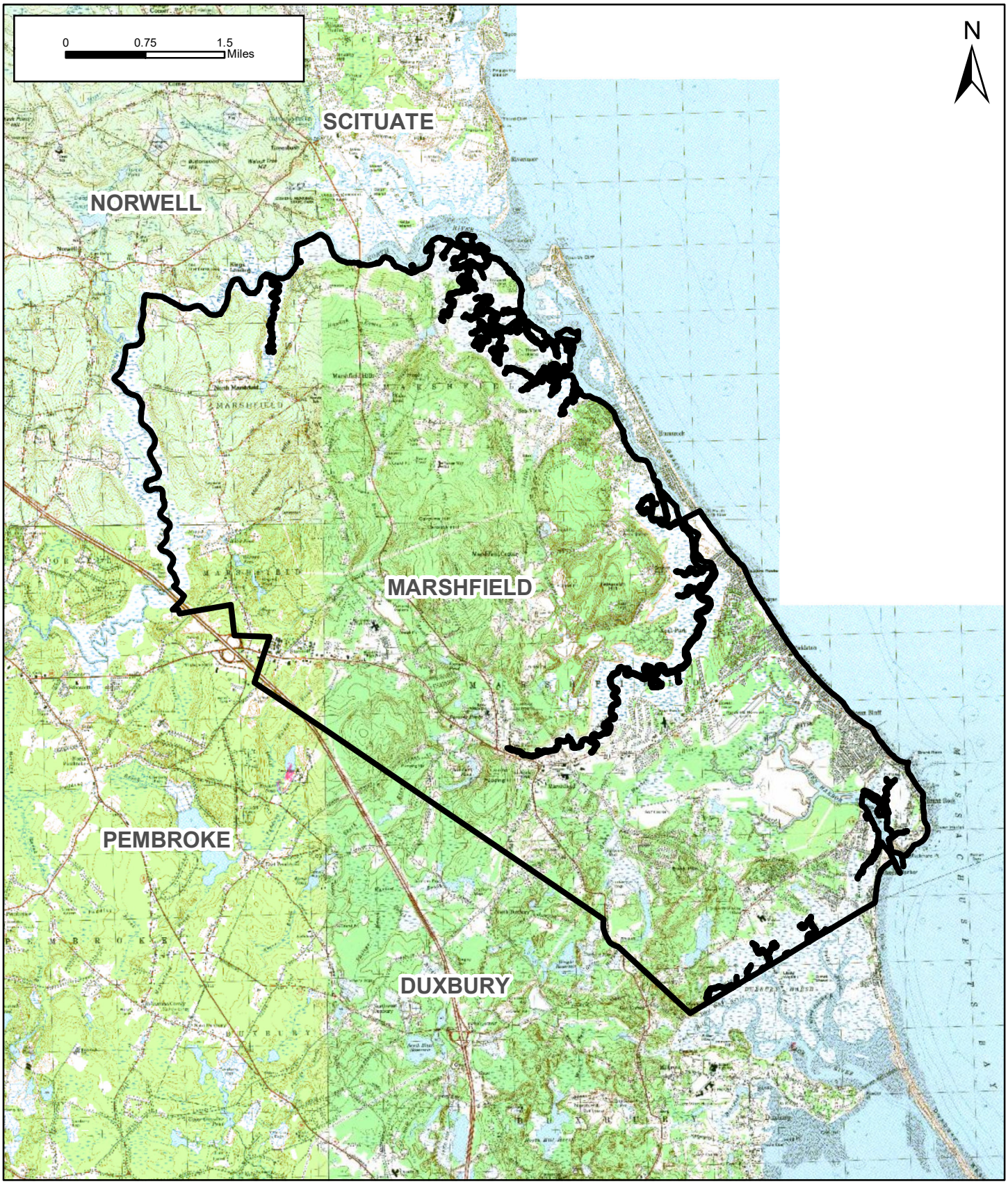
Town of Marshfield, Massachusetts
Massachusetts Year 2014 Integrated List of Waters
Impaired Waters

Category	Name	Segment ID	Description	Size	Units	Impairment Cause
5 - "Water Requiring a TMDL"	**South River**	MA94-09	From dam at Main Street, Marshfield to confluence with North River/Massachusetts Bay, Marshfield/Scituate.	0.625	SQUARE MILES	Fecal Coliform
	Green Harbor River	MA94-10	Outlet Black Mountain Pond, Marshfield to the tidegate at Route 139, Marshfield.	5.648	MILES	(Fish-Passage Barrier*) (Other flow regime alterations*) Excess Algal Growth Turbidity
	Green Harbor	MA94-11	From the tidegates at Route 139, Marshfield to the mouth of the harbor at Massachusetts Bay/Cape Cod Bay, Marshfield	0.078	SQUARE MILES	Fecal Coliform
	North River	MA94-05	Confluence of Indian Head River and Herring Brook, Hanover/Pembroke to Route 3A (Main Street), Marshfield/Scituate.	0.302	SQUARE MILES	Fecal Coliform Mercury in Fish Tissue

*TMDL not required (Non-pollutant)

FIGURE 1

SYSTEM LOCUS



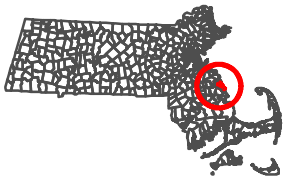
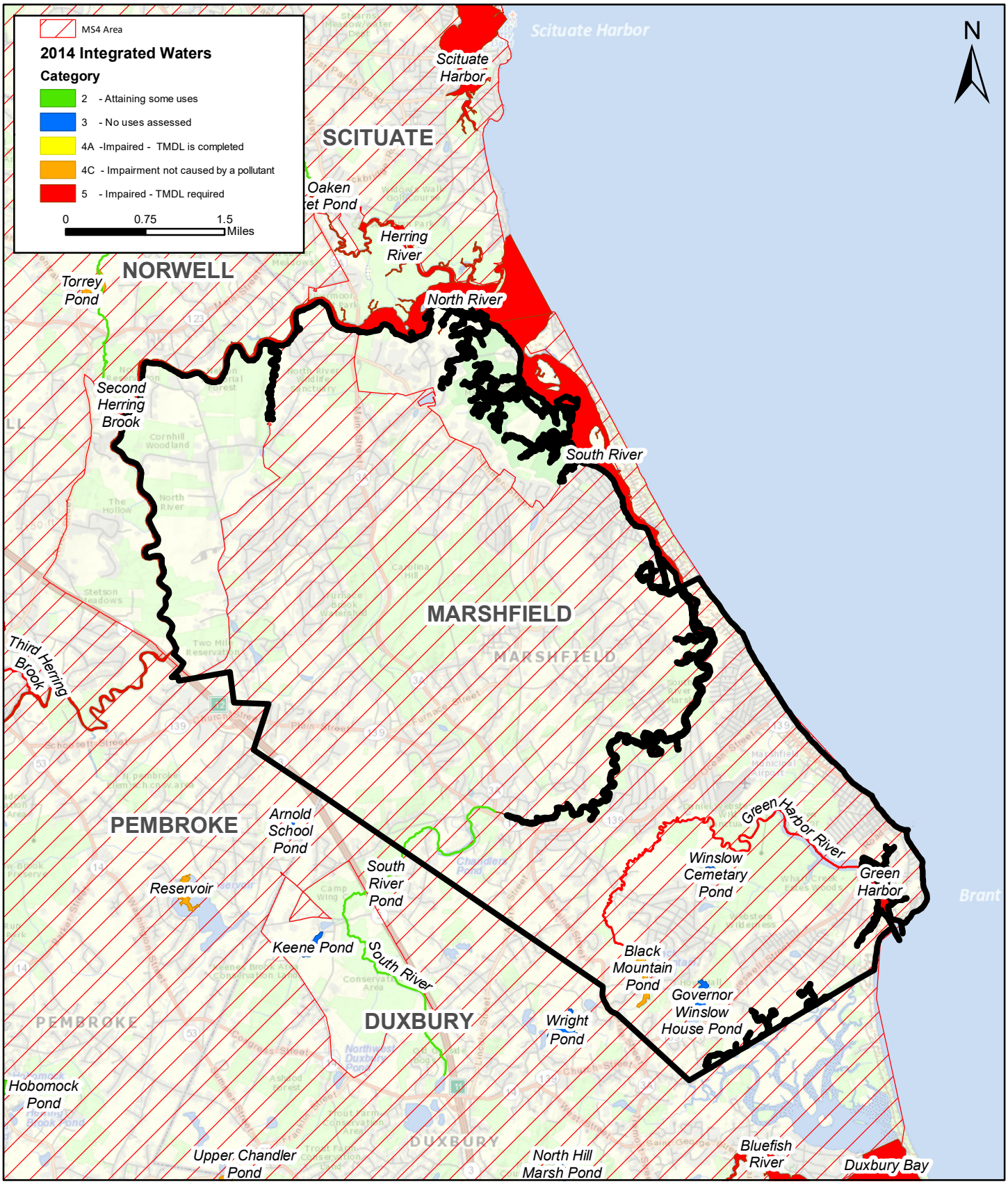


Figure 1
System Locus
Marshfield, Massachusetts

I:\Marshfield.133\R133-1803 MS4 Year One Requirements\2. Stormwater Management Plan\Figures\MXDs\Figure 1 - System Locus.mxd

FIGURE 2

MS4 URBANIZED AREAS



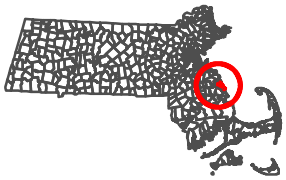


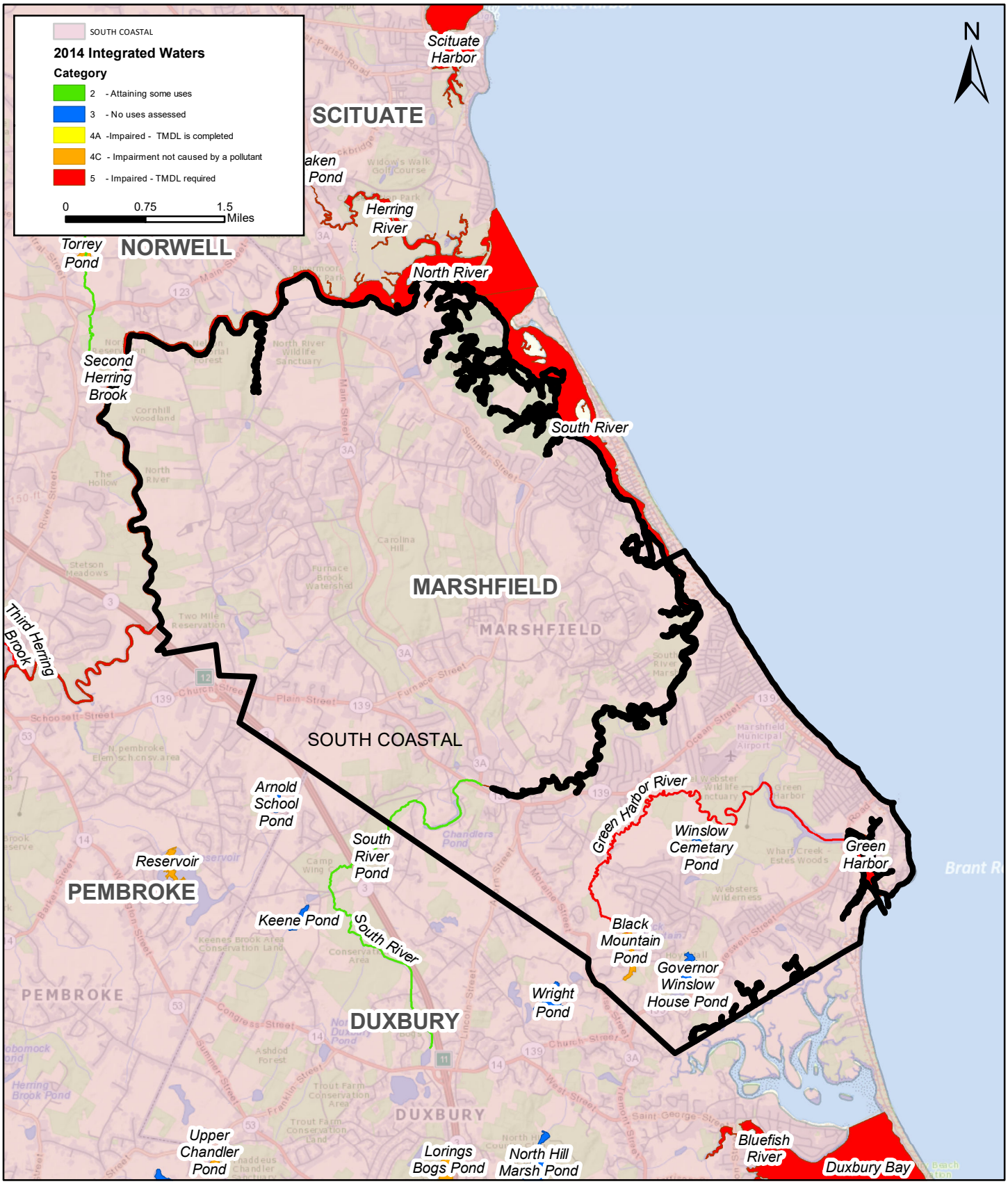
Figure 2
MS4 Urbanized Areas
Marshfield, Massachusetts

Environmental Partners

I:\Marshfield.133\R133-1803 MS4 Year One Requirements\2. Stormwater Management Plan\Figures\MXDs\Figure 2 - MS4 Urbanized Areas.mxd

FIGURE 3

TOWN WATERSHEDS



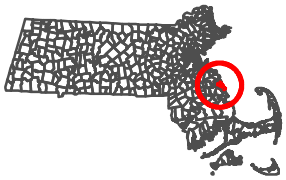


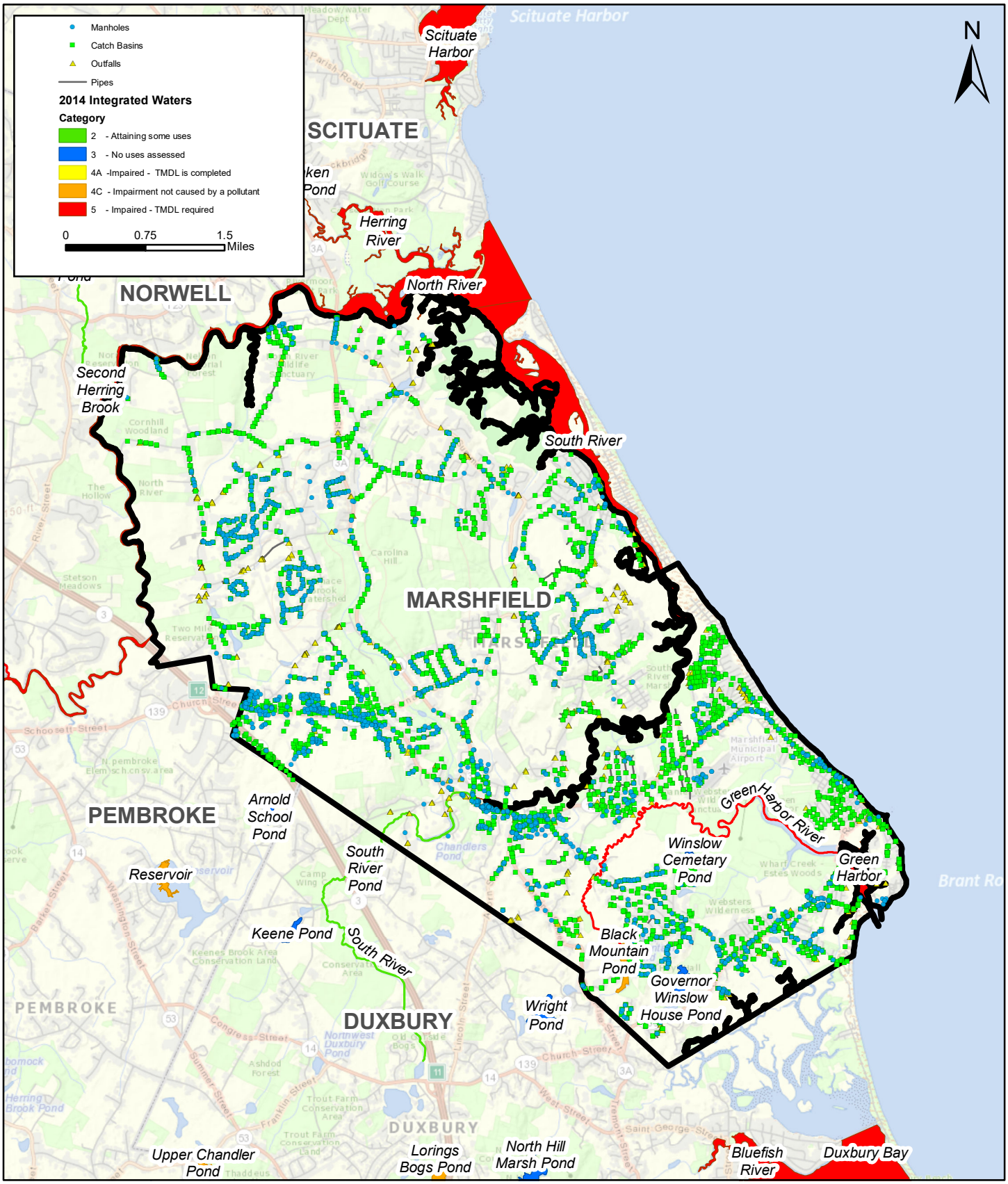
Figure 3
Town Watersheds
Marshfield, Massachusetts

Environmental Partners

I:\Marshfield.133\R133-1803 MS4 Year One Requirements\2. Stormwater Management Plan\Figures\MXDs\Figure 3 - Town Watersheds.mxd

FIGURE 4

STORMWATER SYSTEM MAP



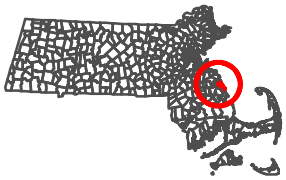


Figure 4
Stormwater System
Marshfield, Massachusetts

Environmental Partners

I:\Marshfield.133\R133-1803 MS4 Year One Requirements\2. Stormwater Management Plan\Figures\MXDs\Figure 4 - Stormwater System.mxd

APPENDIX A

MA MS4 HYPERLINKS AND REFERENCES

MA MS4 General Permit Hyperlinks

EPA MA MS4 Permit: https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit

DEP Permit Information:
http://www.mass.gov/eea/agencies/massdep/water/wastewater/stormwater.html#8

Town Hyperlink: https://www.marshfield-ma.gov/engineering/pages/marshfields-stormwater-plan

MCM 1: Public Education and Outreach

EPA's Stormwater Education Toolbox
MassDEP's Stormwater Outreach Materials
Other templates relevant to MCM 1 can be found here:
https://www.epa.gov/npdes-permits/stormwater-tools-new-england#peo

MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program

IDDE Program Template and SOPs
Other templates relevant to IDDE can be found here:
https://www.epa.gov/npdes-permits/stormwater-tools-new-england#idde

MCM 4: Construction Site Stormwater Runoff Control

Examples and templates relevant to MCM 4, including model ordinances and site inspection templates, can be found here:
https://www.epa.gov/npdespermits/stormwater-tools-new-england#csrc

MCM 5: Post Construction Stormwater Management in New Development and Redevelopment

Examples and templates relevant to MCM 5, including model ordinances and bylaw review templates and guidance can be found here:
https://www.epa.gov/npdes-permits/stormwater-tools-new-england#pcsm

MCM 6: Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Examples and templates relevant to MCM 6, including SOP templates for catch basin cleaning, street sweeping, vehicle maintenance, parks and open space management, winter deicing, and Stormwater Pollution Prevention Plans can be found here:
https://www.epa.gov/npdes-permits/stormwatertools-new-england#gh

APPENDIX B

NOTICE OF INTENT

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part I: General Conditions

General Information

Name of Municipality or Organization: Town of Marshfield State: MA

EPA NPDES Permit Number (if applicable): MA041048

Primary MS4 Program Manager Contact Information

Name: Rod Procaccino Title: Town Engineer

Street Address Line 1: 870 Moraine Street

Street Address Line 2:

City: Marshfield State: MA Zip Code: 02050

Email: rprocaccino@townofmarshfield.org Phone Number: (781) 834-5561

Fax Number: (781) 837-7163

Other Information

Stormwater Management Program (SWMP) Location (web address or physical location, if already completed): DPW office, 870 Moraine Street, Marshfield, MA

Eligibility Determination

Endangered Species Act (ESA) Determination Complete? Yes — Eligibility Criteria (check all that apply): ☐ A ☒ B ☐ C

National Historic Preservation Act (NHPA) Determination Complete? Yes — Eligibility Criteria (check all that apply): ☒ A ☐ B ☐ C

☑ Check the box if your municipality or organization was covered under the 2003 MS4 General Permit

MS4 Infrastructure (if covered under the 2003 permit)

Estimated Percent of Outfall Map Complete? *(Part II, III, IV or V, Subpart B.3.(a.) of 2003 permit)* 100%

If 100% of 2003 requirements not met, enter an estimated date of completion (MM/DD/YY):

Web address where MS4 map is published:

If outfall map is unavailable on the internet an electronic or paper copy of the outfall map must be included with NOI submission (see section V for submission options)

Paper Copy Attached

Regulatory Authorities (if covered under the 2003 permit)

Illicit Discharge Detection and Elimination (IDDE) Authority Adopted? *(Part II, III, IV or V, Subpart B.3.(b.) of 2003 permit)* Yes — Effective Date or Estimated Date of Adoption (MM/DD/YY): 04/23/07

Construction/Erosion and Sediment Control (ESC) Authority Adopted? *(Part II,III,IV or V, Subpart B.4.(a.) of 2003 permit)* Yes — Effective Date or Estimated Date of Adoption (MM/DD/YY): 04/01/11

Post- Construction Stormwater Management Adopted? *(Part II, III, IV or V, Subpart B.5.(a.) of 2003 permit)* Yes — Effective Date or Estimated Date of Adoption (MM/DD/YY): 08/20/12

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part II: Summary of Receiving Waters

Please list the waterbodies to which your MS4 discharges. For each waterbody, please report the number of outfalls discharging into it and, if applicable, the segment ID and any impairments.

Massachusetts list of impaired waters: *Massachusetts 2014 List of Impaired Waters-* http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf

Waterbody that receives flow from the MS4 and segment ID if applicable	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/ DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Atlantic Ocean	8	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Bares Brook	7	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Bourne Wharf River	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
North River (MA94-05)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Furnace Brook	8	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Green Harbor (MA94-11)	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	Fecal Coliform
Green Harbor (River MA94-10)	4	☐	☐	☐	☐	☐	☐	☒	☐	☐	Fish-Passage Barrier, Other Flow Regime Alterations, Excess Algal Growth
Hannah Eames Brook	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Littles Creek	9	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Macombers Creek	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Macombers Creek Reservoir	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
South River (MA94-08)	14	☐	☐	☐	☐	☐	☐	☐	☐	☐	
South River (MA94-09)	19	☐	☐	☐	☐	☐	☐	☐	☐	☐	Fecal Coliform
Unnamed Wetland (42.159905, -70.725599)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	Fecal Coliform, Mercury in Fish Tissue
Unnamed Stream (42.073567, -70.699167)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.076892, -70.673687)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.077267, -70.708458)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.082046, -70.643463)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Waterbody that receives flow from the MS4 and segment ID if applicable	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/ DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Unnamed Stream (42.088364, -70.729978)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.089828, -70.643763)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.09079, -70.646926)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.092461, -70.657838)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.092791, -70.72559)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.095473, -70.723606)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.099747, -70.701617)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.100851, -70.689664)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.103977, -70.67094)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.105814, -70.666621)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.106502, -70.700457)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.113983, -70.761187)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.114374, -70.749805)	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.122842, -70.766944)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.124541, -70.762833)	11	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.128914, -70.756172)	7	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Waterbody (42.075443, -70.698009)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.062792, -70.662617)	9	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Waterbody that receives flow from the MS4 and segment ID if applicable	**Number of outfalls into receiving water segment**	**Chloride**	**Chlorophyll-a**	**Dissolved Oxygen/ DO Saturation**	**Nitrogen**	**Oil & Grease/ PAH**	**Phosphorus**	**Solids/ TSS/ Turbidity**	**E. coli**	**Enterococcus**	**Other pollutant(s) causing impairments**
Unnamed Wetland (42.076032, -70.651302)	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.080972, -70.698711)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.082574, -70.648826)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.084659, -70.678125)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Unnamed Wetland (42.089033, -70.646654)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.100243, -70.70375)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.101439, -70.689518)	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.101691, -70.697233)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.102452, -70.72005)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.102904, -70.747536)	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.103107, -70.666839)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.112024, -70.678515)	9	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.118198, -70.765403)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.12081, -70.709486)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetland (42.13249, -70.694761)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.078357, -70.649412)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.137351, -70.767699)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Stream (42.145927, -70.757999)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Waterbody that receives flow from the MS4 and segment ID if applicable	**Number of outfalls into receiving water segment**	**Chloride**	**Chlorophyll-a**	**Dissolved Oxygen/ DO Saturation**	**Nitrogen**	**Oil & Grease/ PAH**	**Phosphorus**	**Solids/ TSS/ Turbidity**	**E. coli**	**Enterococcus**	**Other pollutant(s) causing impairments**
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Click to lengthen table

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary

Identify the Best Management Practices (BMPs) that will be employed to address each of the six Minimum Control Measures (MCMs). For municipalities/organizations whose MS4 discharges into a receiving water with an approved Total Maximum Daily Load (TMDL) and an applicable waste load allocation (WLA), identify any additional BMPs employed to specifically support the achievement of the WLA in the TMDL section at the end of part III.

For each MCM, list each existing or proposed BMP by category and provide a brief description, responsible parties/departments, measurable goals, and the year the BMP will be employed (public education and outreach BMPs also requires a target audience). **Use the drop-down menus in each table or enter your own text to override the drop down menu.**

MCM 1: Public Education and Outreach

BMP Media/Category (enter your own text to override the drop down menu)	**BMP Description**	**Targeted Audience**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal**	**Beginning Year of BMP Imple-mentation**
Brochures/Pamphlets	Publish outreach materials; Distribute new resident packets to residents within Wetland Protection Areas; Distribute pet waste control information to residents when they (re)apply for a pet license; distribute information to septic maintenance contractors.	Residents	DPW Operations/Engineering, NSRWA	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Brochures/Pamphlets	Include information in permit materials.	Businesses, Institutions and Commercial Facilities	DPW Operations/Engineering, NSRWA	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Brochures/Pamphlets	Include information in permit materials; Review and Update application forms to meet the new requirements.	Developers (construction)	DPW Operations/Engineering, NSRWA	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018

Brochures/Pamphlets	Distribute information to industrial groups based on zoning and property use.	Industrial Facilities	DPW Operations/Engineering, NSRWA	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Web Page	Establish stormwater web site with pollution reporting capability	Residents	DPW Operations/Engineering, NSRWA	Town web site is operational with water quality links available through multiple committee and department pages	2018
Web Page	Establish section on stormwater web site directed toward businesses, institutions, and commercial facilities	Businesses, Institutions and Commercial Facilities	DPW Operations/Engineering, NSRWA	Town stormwater web site is operational and includes section directed toward targeted audience	2018
Web Page	Establish section on stormwater web site directed toward developers	Developers (construction)	DPW Operations/Engineering, NSRWA	Town stormwater web site is operational and includes section directed toward targeted audience	2018
Web Page	Establish section on stormwater web site directed toward industrial facilities	Industrial Facilities	DPW Operations/Engineering, NSRWA	Town stormwater web site is operational and includes section directed toward targeted audience	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 2: Public Involvement and Participation

BMP Categorization	Brief BMP Description (enter your own text to override the drop down menu)	Responsible Department/Parties (enter your own text to override the drop down menu)	Additional Description/ Measurable Goal	Beginning Year of BMP Imple-mentation
Public Review	SWMP Review	DPW Operations/Engineering	Allow annual review of stormwater management plan and posting of stormwater management plan on website	2018
Public Participation	SWMP Review	DPW Operations/Engineering	Allow public to comment on stormwater management plan annually	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

BMP Categorization (enter your own text to override the drop down menu)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
SSO inventory	Develop SSO inventory in accordance of permit conditions	DPW Operations/Engineering	Complete within 1 year of effective date of permit	2018
Storm sewer system map	Create map and update during IDDE program completion	DPW Operations/Engineering	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2018
Written IDDE program	Create written IDDE program	DPW Operations/Engineering	Complete within 1 year of the effective date of permit and update as required	2018
Implement IDDE program	Implement catchment investigations according to program and permit conditions	DPW Operations/Engineering	Complete 10 years after effective date of permit	2018
Employee training	Train employees on IDDE implementation	DPW Operations/Engineering	Train annually	2018
Conduct dry weather screening	Conduct in accordance with outfall screening procedure and permit conditions	DPW Operations/Engineering	Complete 3 years after effective date of permit	2018
Conduct wet weather screening	Conduct in accordance with outfall screening procedure	DPW Operations/Engineering	Complete 10 years after effective date of permit	2018
Ongoing screening	Conduct dry weather and wet weather screening (as necessary)	DPW Operations/Engineering	Complete ongoing outfall screening upon completion of IDDE program	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 4: Construction Site Stormwater Runoff Control

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures	DPW Engineering, Conservation Committee, Planning Board, Zoning Board of Ap	Complete within 1 year of the effective date of permit	2018
Site plan review	Complete written procedures of site plan review and begin implementation	DPW Engineering, Conservation Committee, Planning Board, Zoning Board of Ap	Complete within 1 year of the effective date of permit	2018
Erosion and Sediment Control	Adoption of requirements for construction operators to implement a sediment and erosion control program	DPW Engineering, Conservation Committee, Planning Board, Zoning Board of Ap	Complete within 1 year of the effective date of permit	2018
Waste Control	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	DPW Engineering, Conservation Committee, Planning Board, Zoning Board of Ap	Complete within 1 year of the effective date of permit	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
As-built plans for on-site stormwater control	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP	DPW Engineering, Planning Board, Zoning Board of Appeals	Require submission of as-built plans for completed projects	2018
Target properties to reduce impervious areas	Identify at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually	DPW Engineering, Planning Board, Zoning Board of Appeals	Complete 4 years after effective date of permit and report annually on retrofitted properties	2022
Allow green infrastructure	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist	DPW Engineering, Planning Board, Zoning Board of Appeals	Complete 4 years after effective date of permit and implement recommendations of report	2018
Street design and parking lot guidelines	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.	DPW Engineering, Planning Board, Zoning Board of Appeals	Complete 4 years after effective date of permit and implement recommendations of report	2022

Ensure any stormwater controls or management practices for new development and redevelopment meet the retention or treatment requirements of the permit and all applicable requirements of the Massachusetts Stormwater Handbook	Adoption, amendment, or modification of a regulatory mechanism to meet permit requirements	DPW Engineering, Planning Board, Zoning Board of Appeals	Complete 2 years after effective date of permit	2020

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 6: Municipal Good Housekeeping and Pollution Prevention

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
O&M procedures	Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, buildings and facilities, and vehicles and equipment	DPW Operations/Engineering	Complete and implement 2 years after effective date of permit	2018
Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	DPW Operations/Engineering	Complete 2 years after effective date of permit and implement annually	2019
Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	DPW Operations/Engineering	Complete 2 years after effective date of permit	2019
Stormwater Pollution Prevention Plan (SWPPP)	Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities	DPW Operations/Engineering, Conservation Committee	Complete and implement 2 years after effective date of permit	2019
Catch basin cleaning	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	DPW Operations	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018
Street sweeping program	Sweep all streets and permitee-owned parking lots in accordance with permit conditions	DPW Operations	Sweep all streets and permitee-owned parking lots once per year in the spring	2018
Road salt use optimization program	Establish and implement a program to minimize the use of road salt	DPW Operations	Implement salt use optimization during deicing season	2018

Inspections and maintenance of stormwater treatment structures	Establish and implement inspection and maintenance procedures and frequencies	DPW Operations/Engineering	Inspect and maintain treatment structures at least annually	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

Actions for Meeting Total Maximum Daily Load (TMDL) Requirements

Use the drop-down menus to select the applicable TMDL, action description to meet the TMDL requirements, and the responsible department/parties. If no options are applicable, or more than one, **enter your own text to override drop-down menus.**

Applicable TMDL	Action Description	Responsible Department/Parties (enter your own text to override the drop down menu)
South Coastal Watershed (Bacteria/Pathogen)	Adhere to requirements in part A.III of Appendix F	DPW Operations/Engineering

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

Actions for Meeting Requirements Related to Water Quality Limited Waters

Use the drop-down menus to select the pollutant causing the water quality limitation and enter the waterbody ID(s) experiencing excursions above water quality standards for that pollutant. In addition, if you are subject to additional requirements due to a downstream nutrient impairment (see Part 2.2.2 of the permit) select the pollutant of concern and indicate applicable waterbody IDs or write "all waterbodies" if applicable. Choose the action description from the dropdown menu and indicate the responsible party. If no options are applicable, or more than one, **enter your own text to override drop-down menus.**

Pollutant	Waterbody ID(s)	Action Description	Responsible Department/Parties (enter your own text to override the drop down menu)
Fecal Coliform	MA94-09, MA94-10, MA94-05	Adhere to requirements in part III of Appendix H	DPW Operations/Engineering
Turbidity	MA94-10	Adhere to requirements in part V of Appendix H	DPW Operations/Engineering

Part IV: Notes and additional information

Use the space below to indicate the part(s) of 2.2.1and 2.2.2 that you have identified as not applicable to your MS4 because you do not discharge to the impaired water body or a tributary to an impaired water body due to nitrogen or phosphorus. Provide all supporting documentation below or attach additional documents if necessary.
Also, provide any additional information about your MS4 program below.

Attachments:
Figure - MS4 Outfalls
USFWS Correspondence

The outfalls included in Part II: Summary of Receiving Waters were selected based on a 100 foot distance from any waters of the U.S.. Coordinates listed under unnamed water segments are based on the NAD 1983 State Plane Massachusetts FIPS 2001 (US Feet) Coordinate System, and are listed as latitude/longitude in decimal degrees.

Regarding the ESA section 7 consultation, I agree that the MS4 Permit will not adversely affect the Northern Long-eared Bat, Piping Plover, Red Knot, or Roseate Tern in the MS4 area. The concurrence letter issued by USFWS is attached.

Regarding the National Historic Preservation Act, under 36 CFR 800, this facility is an existing facility authorized by the previous Permit, and is not undertaking any activity involving subsurface land disturbance less than 1 acre. This MS4 Permit will have "no potential to cause effects," in accordance with 36 CFR 800.3(a)(1).

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part V: 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, I certify that 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.

Name: Michael A. Maresco

Title: Town Administrator

Signature: Michael A. Maresco

Date: 9-28-18

[To be signed according to Appendix B, Subparagraph B.11, Standard Conditions]

Note: When prompted during signing, save the document under a new file name

APPENDIX C

PERMIT SCHEDULE

MS4 Permit Draft Schedule
Town of Marshfield, Massachusetts

July 2018 – MS4 Permit effective date to coincide with start of FY18

- **September 29, 2018** – Submit Updated NOI (within 90 days of effective date)

July 2019 – Items due within 1 year of effective date

- Submit Updated Stormwater Management Plan
- Additional Mapping – update stormwater system GIS for connectivity (as needed)
- Written IDDE Plan, identify catchments contributing to high priority areas such as contributing to public water supplies, public bathing beaches, or Inventory Town Facilities
- Develop O&M for Town Facilities – Public Works facilities, Parks/Recreation, Town Hall, Schools
- Evaluate street sweeping and catch basin cleaning frequency
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education/Outreach (*x2 for Impaired Water Requirements*)*
    - Bacteria and Pathogens: Targeting Dog Waste/Septic Systems for South Coastal Watershed, South River, Green Harbor, and North River
- Additional BMPS for Waterbodies with Impairments by Solids * - Green Harbor River and North River
    - New or Redevelopment of Commercial Industrial properties draining to the waterbodies shall incorporate stormwater BMPs that can be shutdown/isolated in event of a spill/release. EPA encourages requirements for stormwater infiltration and pollutant removal BMPs
    - Evaluate need for increased frequency of street sweeping of municipal streets and parking lots in areas with potential for higher pollutant loads
    - Evaluate need for increased frequency of catch basin inspections and cleaning if excessive sediment/debris loadings observed
- Public Participation
- Annual Training

July 2020 – Items due within 2 years of effective date

- SWPPP for Appropriate Facilities
- SPCC Plan where appropriate
- Parks Maintenance Plan
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Continue to evaluate street sweeping and catch basin cleaning frequency.
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education/Outreach (*x2 for Impaired Water Requirements*)*
    - Bacteria and Pathogens: Targeting Dog Waste / Septic Systems for South Coastal Watershed, South River, Green Harbor, and North River
- Public Participation

- Annual Training

July 2021 – Items due within 3 years of effective date

- Revisions to Stormwater Bylaw - Construction Site Stormwater Runoff Control
- Draft regulations to promote green infrastructure – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Continue to evaluate street sweeping and catch basin cleaning frequency.
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education/Outreach (*x2 for Impaired Water Requirements*)*
    - Bacteria: Targeting Dog Waste / Septic Systems for – South Coastal Watershed, South River, Green Harbor, and North River
- Public Participation
- Annual Training

July 2022 – Items due within 4 years of effective date

- Revisions to Stormwater Bylaw - Construction Site Stormwater Runoff Control
- Draft regulations to reduce impervious cover – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Continue to evaluate street sweeping and catch basin cleaning frequency.
- Additional Education/Outreach (*x2 for Impaired Water Requirements*)*
    - Bacteria: Targeting Dog Waste / Septic Systems for – South Coastal Watershed, South River, Green Harbor, and North River
- Public Participation
- Annual Training

July 2023 – Permit Length (5 years)

- Inventory/Priority Ranking of LID retrofits on Town-Owned Property – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Continue to evaluate street sweeping and catch basin cleaning frequency
- Additional Education/Outreach (*x2 for Impaired Water Requirements*)*
    - Bacteria: Targeting Dog Waste / Septic Systems for – South Coastal Watershed, South River, Green Harbor, and North River
- Public Participation
- Annual Training

**Additional requirements for Water Quality Assessment are required due to documented bacteria or pathogens, and solids, oil and grease, or metals impairments. (see MA NPDES MS4 Appendix H, section III and section V.)*

APPENDIX D

ENDANGERED SPECIES AND CRITICAL HABITATS PROTECTION DOCUMENTS

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial St, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

September 24, 2018

To whom it may concern:

The U.S. Fish and Wildlife Service (USFWS) reviewed the stormwater discharge activities associated with the 2016 National Pollutant Discharge and Elimination System (NPDES) Massachusetts (MA) Small Municipal Separate Storm Sewer System (MS4) general permit (MA MS4 General Permit) issued by the Environmental Protection Agency (EPA). We determined those activities may affect, but are not likely to adversely affect, certain species listed under the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) when specific conditions are met. When these conditions are met, we do not need to review individual projects. These comments are provided in accordance with section 7 of the ESA and complement existing 2016 MA MS4 General Permit Appendix C Guidance. We understand the applicant is acting as a non-Federal representative of the EPA for the purpose of consultation under section 7. **This letter provides additional guidance for meeting Criterion B and should be submitted as part of your application package to the EPA.**

If the USFWS Information for Planning and Consultation website (https://ecos.fws.gov/ipac/) indicates your MA MS4 General Permit project action area may contain one or more of the following federally listed endangered species: roseate tern (*Sterna dougallii*), northern red-bellied cooter (*Pseudemys rubriventris*), dwarf wedgemussel (*Alasmidonta heterodon*), rusty patched bumble bee (*Bombus affinis*), northeastern bulrush (*Scirpus ancistrochaetus*), or American chaffseed (*Schwalbea americana*); threatened species: piping plover (*Charadrius melodus*), bog turtle (*Glyptemys muhlenbergii*), Puritan tiger beetle (*Cicindela puritana*), northeastern beach tiger beetle (*Cicindela dorsalis*), or red knot (*Calidris canutus rufa*); or their federally designated critical habitat; and the specific conditions listed below are met, you may submit this letter to complete the **MA MS4 General Permit Appendix C: Step 4** in place of a concurrence letter for informal consultation as documentation of ESA eligibility for **USFWS Criterion B**.

In addition, this letter also satisfies the requirement in the **MA MS4 General Permit Appendix C: Step 2 (3)** to contact the USFWS and obtain a concurrence letter, if you have not yet done so. If your project action area includes one or more of the above-listed species *and* one or more of the

species listed under **Criterion C,**[1] you may still use this letter to certify under **Criterion B**. All existing guidance regarding requirements for certifying eligibility according to the USFWS Criterion A, B, or C for coverage by the 2016 MS4 Permit (see MA MS4 General Permit Appendix C – Endangered Species Guidance) remains unchanged.

We have determined that proposed stormwater discharge activities covered under the 2016 MS4 Permit *may affect, but are not likely to adversely affect*, the above-listed species and the species' critical habitat when the following are true:

1. all stormwater discharges are pre-existing or previously permitted by EPA;
2. any planned operations and maintenance work covered by this permit will only affect previously disturbed areas where stormwater controls are already installed. In these situations the chance of encountering any of the subject species is discountable;
3. the project implements EPA MS4 Best Management Practices (BMPs) and meets Clean Water Act and Massachusetts Water Quality Standards. Although permitted discharges may reach the environment used by these species, BMPs reduce pollutants to the extent that discharges are not known to have measurable impacts on these species or their habitat;
4. no new construction or structural BMPs are proposed under this permit at this time; and
5. you agree that if, during the course of the permit term, you plan to install a structural BMP not identified in the Notice of Intent (NOI), you will re-initiate consultation with the USFWS as necessary (see **MA MS4 General Permit Appendix C: Step 2 (5)**).

If the above criteria are met, further consultation with the USFWS under section 7 of the ESA is not required at this time; however, if the proposed action changes in any way such that it may affect a listed species in a manner not previously analyzed or if new information reveals the presence of additional listed species that may be affected by the project, the applicant or the EPA should contact us immediately and suspend activities that may affect those species until the appropriate level of consultation is completed with our office. Thank you for your cooperation, and please contact David Simmons of this office at (603) 227-6425 if you have questions or need further assistance.

Sincerely yours,

Thomas R Chapman
Supervisor
New England Field Office

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[1] Criterion C includes guidance for project action areas that may contain species for which EPA has already made a determination. These species include the northern long-eared bat (*Myotis septentrionalis*), sandplain gerardia (*Agalinis acuta*), small whorled pogonia (*Isotria medeoloides*), and/or American burying beetle (*Nicrophorus americanus*) (MA MS4 General Permit Appendix C: Step 3 – Determine if You Can Meet Eligibility USFWS Criterion C).

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To: August 08, 2018
Consultation Code: 05E1NE00-2018-SLI-2649
Event Code: 05E1NE00-2018-E-06191
Project Name: Marshfield MS4

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2018-SLI-2649

Event Code: 05E1NE00-2018-E-06191

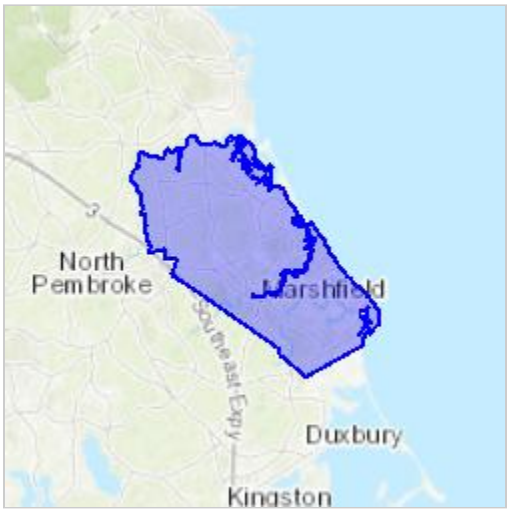
Project Name: Marshfield MS4

Project Type: ** OTHER **

Project Description: Stormwater MS4

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.111078860952134N70.72307252366679W



Counties: Plymouth, MA

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Roseate Tern *Sterna dougallii dougallii* Population: northeast U.S. nesting pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX E

MA MS4 GENERAL PERMIT - APPENDIX D - HISTORIC PROPERTIES DOCUMENTS

Appendix D
National Historic Preservation Act Guidance

Background

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of Federal "undertakings" on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. The term federal "undertaking" is defined in the NHPA regulations to include a project, activity, or program of a federal agency including those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, and those requiring a federal permit, license or approval. See 36 CFR 800.16(y). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within such properties. See 36 CFR 800.16(1).

EPA's issuance of a National Pollutant Discharge Elimination System (NPDES) General Permit is a federal undertaking within the meaning of the NHPA regulations and EPA has determined that the activities to be carried out under the general permit require review and consideration, in order to be in compliance with the federal historic preservation laws and regulations. Although individual submissions for authorization under the general permit do not constitute separate federal undertakings, the screening processes provides an appropriate site-specific means of addressing historic property issues in connection with EPA's issuance of the permit. To address any issues relating to historic properties in connection with the issuance of this permit, EPA has included a screening process for applicants to identify whether properties listed or eligible for listing on the National Register of Historic Places are within the path of their discharges or discharge-related activities (including treatment systems or any BMPs relating to the discharge or treatment process) covered by this permit.

Applicants seeking authorization under this general permit must comply with applicable, State, Tribal, and local laws concerning the protection of historic properties and places and may be required to coordinate with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) and others regarding effects of their discharges on historic properties.

Activities with No Potential to Have an Effect on Historic Properties

A determination that a federal undertaking has no potential to have an effect on historic properties fulfills an agency's obligations under NHPA. EPA has reason to believe that the vast majority of activities authorized under this general permit will have no potential effects on historic properties. This permit typically authorizes discharges from existing facilities and requires control of the pollutants discharged from the facility. EPA does not anticipate effects on historic properties from the pollutants in the authorized discharges. Thus, to the extent EPA's issuance of this general permit authorizes discharges of such constituents, confined to existing channels, outfalls or natural drainage areas, the permitting action does not have the potential to cause effects on historical properties.

In addition, the overwhelming majority of sources covered under this permit will be facilities that are seeking renewal of previous permit authorization. These existing dischargers should have already addressed NHPA issues in the previous general permit as they were required to certify that they were either not affecting historic properties or they had obtained written agreement from

the applicable SHPO or THPO regarding methods of mitigating potential impacts. To the extent this permit authorizes renewal of prior coverage without relevant changes in operations the discharge has no potential to have an effect on historic properties.

Activities with Potential to Have an Effect on Historic Properties

EPA believes this permit may have some potential to have an effect on historic properties the applicant undertakes the construction and/or installation of control measures that involve subsurface disturbance that involves less than 1 acre of land. (Ground disturbances of 1 acre or more require coverage under the Construction General Permit.) Where there is disturbance of land through the construction and/or installation of control measures, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. Therefore, if the applicant is establishing new or altering existing control measures to manage their discharge that will involve subsurface ground disturbance of less than 1 acre, they will need to ensure (1) that historic properties will not be impacted by their activities or (2) that they are in compliance with a written agreement with the SHPO, THPO, or other tribal representative that outlines all measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Examples of Control Measures Which Involve Subsurface Disturbance

The type of control measures that are presumptively expected to cause subsurface ground disturbance include:

- Dikes
- Berms
- Catch basins, drainage inlets
- Ponds, bioretention areas
- Ditches, trenches, channels, swales
- Culverts, pipes
- Land manipulation; contouring, sloping, and grading
- Perimeter Drains
- Installation of manufactured treatment devices

EPA cautions applicants that this list is non-inclusive. Other control measures that involve earth disturbing activities that are not on this list must also be examined for the potential to affect historic properties.

Certification

Upon completion of this screening process the applicant shall certify eligibility for this permit using one of the following criteria on their Notice of Intent for permit coverage:

> **Criterion A**: The discharges do not have the potential to cause effects on historic properties.

Criterion B: A historic survey was conducted. The survey concluded that no historic properties are present. Discharges do not have the potential to cause effects on historic properties.

Criterion C: The discharges and discharge related activities have the potential to have an effect on historic properties, and the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Authorization under the general permit is available only if the applicant certifies and documents permit eligibility using one of the eligibility criteria listed above. Small MS4s that cannot meet any of the eligibility criteria in above must apply for an individual permit.

Screening Process

Applicants or their consultant need to answer the questions and follow the appropriate procedures below to assist EPA in compliance with 36 CFR 800.

Question 1: Is the facility an existing facility authorized by the previous permit or a new facility and the applicant is not undertaking any activity involving subsurface land disturbance less than an acre?

YES - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.
The applicant should certify eligibility for this permit using Criterion A on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has "no potential to cause effects" (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

NO- Go to Question 2.

Question 2: Is the property listed in the National Register of Historic Places or have prior surveys or disturbances revealed the existence of a historic property or artifacts?

NO - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.
The applicant should certify eligibility for this permit using Criterion B on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has "no potential to cause effects" (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

YES - The applicant or their consultant should prepare a complete information submittal to the SHPO. The submittal consists of:

- Completed Project Notification Form- forms available at http://www.sec.state.ma.us/mhc/mhcform/formidx.htm;

- USGS map section with the actual project boundaries clearly indicated; and
- Scaled project plans showing existing and proposed conditions.

(1) Please note that the SHPO does not accept email for review. Please mail a paper copy of your submittal (Certified Mail, Return Receipt Requested) or deliver a paper copy of your submittal (and obtain a receipt) to:

State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Blvd.
Boston MA 02125.

(2) Provide a copy of your submittal and the proof of MHC delivery showing the date MHC received your submittal to:

NPDES Permit Branch Chief
US EPA Region 1 (OEP06-1)
5 Post Office Square, Suite 100
Boston MA 02109-3912.

The SHPO will comment within thirty (30) days of receipt of complete submittals, and may ask for additional information. Consultation, as appropriate, will include EPA, the SHPO and other consulting parties (which includes the applicant). The steps in the federal regulations (36 CFR 800.2 to 800.6, etc.) will proceed as necessary to conclude the Section 106 review for the undertaking. **The applicant should certify eligibility for this permit using Criterion C on their Notice of Intent for permit coverage.**

APPENDIX F

NEW OR INCREASED DISCHARGES

New or Increased Discharges

Marshfield, MA

Location	Description	Proposed Use	Area	Contributing Area to MS4	BMP
**Harwood Rd	Housing Community	Residence	27 acres	27 acres	Stormceptor unit and detention pond

** Example of what would be written for a new or increased discharge

APPENDIX G

SSO INVENTORY

Sanitary Sewer Overflow (SSO) Inventory

Marshfield, MA

Location	Discharge Location	Is Discharge Entering MS4? (Y/N)	Date/Time of SSO Occurance	Estimated Volume of SSO Occurance	Known/Suspected Cause	Mitigation Measures Completed	Mitigation Implementation Date	Mitigation Measures Planned	Mitigation Implementation Schedule
1 Example Rd	Enters into Example Pond	Yes	August 4, 2016 9:00 AM - August 5, 2016 3:00 PM	1,200 gallons	Illicit resident connection	Illicit connection removed	August 8, 2016		

*The SSO occurance listed above is an example

APPENDIX H

CURRENT STORMWATER BYLAW

Chapter 246

STORMWATER MANAGEMENT

§ 246-1. Purpose and objectives.

Increased stormwater runoff and contaminated stormwater runoff are the two major causes of impairment of lakes, ponds, streams, rivers, wetlands and groundwater; contamination of drinking water supplies; alteration or destruction of aquatic and wildlife habitat; and flooding. Regulation of illicit connections and discharges to the municipal storm drain system is necessary for the protection of the Town's water bodies and groundwater, and to safeguard the public health, safety, welfare and the environment. The objectives of this bylaw are:

A. To help prevent pollutants from entering the Town's municipal storm drain system;

B. To prohibit illicit connections and unauthorized discharges to the Town's municipal storm drain system, a requirement of NPDES Phase II General Permit (MS4);

C. To require the removal of all such illicit connections;

D. To comply with state 314 CMR 3.0 and 314 CMR 5.0 and other state and federal statutes and regulations relating to the quantity and quality of stormwater discharges;

E. To establish the legal authority to ensure compliance with the provisions of this bylaw through inspection, monitoring, and enforcement; and

F. To establish the legal authority to allow connections to the Town's municipal storm drain system through regulation adopted by the Board of Public Works.

§ 246-2. Definitions.

For the purposes of this bylaw, the following words or terms shall mean:

AUTHORIZED ENFORCEMENT AGENCY — The Board of Public Works (hereafter the Board), its employees or agents designated to enforce this bylaw.

BEST MANAGEMENT PRACTICE (BMP) — An activity, procedure, or structural improvement that helps to reduce the quantity or improve the quality of stormwater runoff.

CLEAN WATER ACT — The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) as hereafter amended.

DISCHARGE OF POLLUTANTS — The discharge from any source of any pollutant or combination of pollutants into the municipal storm drain system

or into the waters or wetlands of the United States or commonwealth or waters of the Town from any source.

GROUNDWATER — Water beneath the surface of the ground.

ILLICIT CONNECTION — A surface or subsurface drain or conveyance which allows an unauthorized illicit discharge into the municipal storm drain system, including without limitation sewage, process wastewater, wash water or any connections from indoor drains, sinks, or toilets, regardless of whether said connection was previously allowed, permitted, or approved before the effective date of this bylaw.

ILLICIT DISCHARGE — Direct or indirect discharge to the municipal storm drain system that is not composed entirely of stormwater, except as exempted in § 246-8. The term does not include a discharge in compliance with a National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit or a surface water discharge permit, or discharge resulting from fire-fighting activities exempted pursuant to § 246-8Q of this bylaw.

IMPERVIOUS SURFACE — Any material or structure on or above the ground that prevents water infiltrating the underlying soil. "Impervious surface" includes without limitation roads, paved parking lots, sidewalks, and rooftops.

MUNICIPAL STORM DRAIN SYSTEM — The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Marshfield.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER DISCHARGE PERMIT — A permit issued by United States Environmental Protection Agency (EPA) or jointly with the state that authorizes the discharge of pollutants to waters of the United States.

NON-STORMWATER DISCHARGE — Discharge to the municipal storm drain system not composed entirely of stormwater.

PERSON — An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

POLLUTANT — Any element or property of sewage, agricultural, industrial or commercial waste, runoff, leachate, heated effluent, or other matter, whether originating at a point or nonpoint source, that is or may be introduced into any sewage treatment works or waters of the commonwealth. Pollutants shall include without limitation:

A. Paints, varnishes, and solvents;

B. Oil and other automotive fluids;

C. Non-hazardous liquid and solid wastes and yard wastes;

D. Refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnances, accumulations and floatables;

E. Pesticides, herbicides, and fertilizers;

F. Hazardous materials and wastes; sewage, fecal coliform and pathogens;

G. Dissolved and particulate metals;

H. Animal wastes;

I. Rock, sand, salt, soils;

J. Construction wastes and residues;

K. Medical and bio-wastes; and

L. Noxious or offensive matter of any kind.

PROCESS WASTEWATER — Water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any material, intermediate product, finished product, or waste product.

RECHARGE — The process by which groundwater is replenished by precipitation through the percolation of runoff and surface water through the soil.

STORMWATER — Stormwater runoff, snow melt runoff, and surface water runoff and drainage.

STORMWATER DISCHARGE — A discharge of stormwater runoff by a system of conveyances (including pipes, conduits, ditches and channels) used for collecting and conveying stormwater and as further defined by 314 CMR 5.04(2).

SURFACE WATER DISCHARGE PERMIT — A permit issued by the Department of Environmental Protection (DEP) pursuant to 314 CMR 3.00 that authorize the discharge of pollutants to waters of the Commonwealth of Massachusetts.

TOXIC OR HAZARDOUS MATERIAL OR WASTE — Any material which because of its quantity, concentration, or chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment. Toxic or hazardous materials include any synthetic organic chemical, petroleum product, heavy metal, radioactive or infectious waste, acid and alkali, and any substance defined as toxic or hazardous under MGL c. 21C and c. 21E, and the regulations at 310 CMR 30.000 and 310 CMR 40.000.

WASTEWATER — Any sanitary waste, sludge, or overflow of contents from septic tank or cesspool, and water that during manufacturing, cleaning or

processing comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product or waste product.

WATERCOURSE — A natural or man-made channel through which water flows or a stream of water, including a river, brook or underground stream.

WATERS OF THE COMMONWEALTH — All waters within the jurisdiction of the commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, coastal waters, and groundwater.

WATERS OF THE TOWN — All waters within the Town outside the jurisdiction of the commonwealth defined for the purpose of this bylaw.

§ 246-3. Applicability.

This bylaw shall apply to all flows entering the municipally owned storm drainage system.

§ 246-4. Authority.

This bylaw is adopted under the authority granted by the Home Rule Amendment of the Massachusetts Constitution and the Home Rule Procedures Act,[1] and pursuant to the regulations of the federal Clean Water Act found at 40 CFR 122.34.

§ 246-5. Administration.

The Board of Public Works shall administer, implement and enforce this bylaw. Any powers granted to or duties imposed upon the Board may be delegated in writing by the Board to employees or agents of the Board. Copies of all orders of enforcement and correspondence shall be given to the Board of Public Works for maintenance of records.

§ 246-6. Rules and regulations.

The Board of Public Works may promulgate rules and regulations to effectuate the purposes of this bylaw. Failure by the Board to promulgate such rules and regulations shall not have the effect of suspending or invalidating this bylaw.

§ 246-7. Prohibited activities.

A. Illicit discharges. No person shall dump, discharge, or cause or allow to be discharged any pollutant or non-stormwater discharge into the municipal storm drain system, into a watercourse, or into the waters of the commonwealth, or waters of the Town.

B. Illicit connections. No person shall construct, use, allow, maintain or continue any illicit connection to the municipal storm drain system,

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1. **Editor's Note: See MGL c. 43B.**

regardless of whether the connection was permissible under applicable law, regulation or custom at the time of connection.

C. Obstruction of municipal storm drain system. No person shall obstruct or interfere with the normal flow of stormwater into or out of the municipal storm drain system without prior written approval from the Board of Public Works.

§ 246-8. Exemptions.

The following non-stormwater discharges or flows are exempt from the prohibition of non-stormwaters provided that the source is not a significant contributor of a pollutant to the municipal storm drain system:

A. Waterline flushing;

B. Flow from potable water sources;

C. Springs;

D. Natural flow from riparian habitats and wetlands;

E. Diverted stream flow;

F. Rising groundwater;

G. Uncontaminated groundwater infiltration as defined in 40 CFR 35.2005(b)(20), or uncontaminated pumped groundwater regulated and permitted in accordance with the Marshfield Department of Public Works Policy for Connection into the Town's Storm Drain System; **[Amended 4-24-2017 ATM by Art. 10]**

H. Water from exterior foundation drains, footing drains (not including active groundwater dewatering systems), crawl space pumps, or air-conditioning condensation regulated and permitted in accordance with the Marshfield Department of Public Works Policy for Connection into the Town's Storm Drain System;

I. Discharge from landscape irrigation or lawn watering;

J. Water from individual residential car washing;

K. Discharge from dechlorinated swimming pool water (less than one ppm chlorine) provided the water is allowed to stand for one week prior to draining and the pool is drained in such a way as not to cause a nuisance;

L. Discharge from street sweeping;

M. Dye testing, provided verbal notification is given to the Board of Public Works prior to the time of the test;

N. Non-stormwater discharge permitted under an NPDES permit or a surface water discharge permit, waiver, or waste discharge order

administered under the authority of the United States Environmental Protection Agency or the Department of Environmental Protection, provided that the discharge is in full compliance with the requirements of the permit, waiver, or order and applicable laws and regulations;

O. Discharge for which advanced written approval is received from the Board of Public Works as necessary to protect public health, safety, welfare or the environment;

P. Exemptions as defined under 314 CMR 3.05; and

Q. Discharge of flow resulting from fire-fighting activities.

§ 246-9. Emergency suspension of storm drainage system access.

The Board of Public Works may suspend municipal storm drain system access to any person or property without prior written notice when such suspension is necessary to stop an actual or threatened discharge of pollutants that presents imminent risk of harm to the public health, safety, welfare or the environment. In the event any person fails to comply with an emergency suspension order, the authorized enforcement agency may take all reasonable steps to prevent or minimize harm to the public health, safety, welfare or the environment.

§ 246-10. Notification of spills.

Notwithstanding other requirements of local, state or federal law, as soon as a person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of or suspects a release of materials at that facility or operation resulting in or which may result in discharge of pollutants to the municipal drainage system or waters of the commonwealth, or waters of the Town, the person shall take all necessary steps to ensure containment and cleanup of the release. In the event of a release of oil or hazardous materials, the person shall immediately notify the Town's Fire and Police Departments, Conservation Agent and the Town's Health Agent and Department of Public Works. In the event of a release of non-hazardous material, the reporting person shall notify the Conservation Agent, the Town's Health Agent and Department of Public Works no later than the next business day. The reporting person shall provide to the Conservation Agent and Department of Public Works written confirmation of all telephone, facsimile or in-person notifications within three business days thereafter. If the discharge of prohibited materials is from a commercial or industrial facility, the facility owner or operator of the facility shall retain on site a written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

§ 246-11. Enforcement; violations and penalties.

A. The Board of Public Works or an authorized agent of the Board of Public Works including the Conservation Agent and the Town's Health

Agent shall enforce this bylaw, regulations, orders, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations.

B. Civil relief. If a person violates the provisions of this bylaw, regulations, permit, notice, or order issued thereunder, the Board of Public Works or Conservation Agent or the Town's Health Agent may seek injunctive relief in a court of competent jurisdiction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

C. Orders. The Board of Public Works or an authorized agent of the Board of Public Works, Conservation Agent, or the Town's Health Agent may issue a written order to enforce the provisions of this bylaw or the regulations thereunder, which may include:

(1) Elimination of illicit connections or discharges to the municipal storm drain system;

(2) Performance of monitoring, analyses, and reporting;

(3) That unlawful discharges, practices, or operations shall cease and desist; and

(4) Remediation of contamination in connection therewith.

D. If the enforcing person determines that abatement or remediation of contamination is required, the order shall set forth a deadline by which such abatement or remediation must be completed. Said order shall further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the Town may, at its option, undertake such work, and expenses thereof shall be charged to the violator.

E. Within 30 days after completing all measures necessary to abate the violation or to perform remediation, the violator and the property owner will be notified of the costs incurred by the Town, including administrative costs. The violator or property owner may file a written protest objecting to the amount or basis of costs with the Board of Public Works within 30 days of receipt of the notification of the costs incurred. If the amount due is not received by the expiration of the time in which to file a protest or within 30 days following a decision of the Board of Public Works affirming or reducing the costs, or from a final decision of a court of competent jurisdiction, the costs shall become a special assessment against the property owner and shall constitute a lien on the owner's property for the amount of said costs. Interest shall begin to accrue on any unpaid costs at the statutory rate provided in MGL c. 59, § 57, after the 31st day at which the costs first become due.

F. Criminal penalty. Any person who violates any provision of this bylaw, regulation, order or permit issued thereunder shall be punished by a

fine of not more than $300. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

G. Noncriminal disposition. As an alternative to criminal prosecution or civil action, the Town's enforcing officer may elect to utilize the noncriminal disposition procedure set forth in MGL c. 40, § 21D, and adopted by the Town and set forth in Chapter 161, Article I, of the Town of Marshfield General Bylaws. The penalty for the first violation shall be $100. The penalty for the second violation shall be $200. The penalty for the third and subsequent violations shall be $300. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

H. Entry to perform duties under this bylaw. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, employees authorized by the Board of Public Works, Conservation Agent or Board of Health Agent may enter upon privately owned property for the purpose of performing their duties under this bylaw and regulations and may make or cause to be made such examinations, surveys or sampling as the Board of Public Works or Conservation Agent or Town Health Agent deems reasonably necessary.

I. Appeals. The decisions or orders of the Board of Public Works or its agents, the Conservation Agent, or the Town's Health Agent shall be final. Further relief shall be to a court of competent jurisdiction.

J. Remedies not exclusive. The remedies listed in this bylaw are not exclusive of any other remedies available under any applicable federal, state or local law.

§ 246-12. Severability.

The provisions of this bylaw are hereby declared to be severable. If any provision, paragraph, sentence, or clause of this bylaw or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this bylaw.

§ 246-13. Transitional provisions.

A. Existing connections. Property owners with existing connections shall notify the DPW and provide detail of the connection to the Town's municipal storm drainage system to obtain license or permit. Modifications may be required due to concern with water quality, water quantity or health and safety issues.

B. Residential property owners shall have 365 days from the effective date of the bylaw to comply with its provisions unless good cause is shown for the failure to comply with the bylaw during that period. **[Amended 4-24-2017 ATM by Art. 10]**

C. Commercial property owners shall have 180 days from the effective date of the bylaw to comply with its provisions unless good cause is shown for the failure to comply with the bylaw during that period. **[Amended 4-24-2017 ATM by Art. 10]**

§ 246-14. Indemnification.

Permit or license holders allowed to connect to the system shall hold the Town harmless and the Town of Marshfield shall not be held liable for illicit discharges to the stormwater system and receiving areas and receiving waters caused by others.

APPENDIX I

2018 ANNUAL REPORT SELF EVALUATION

ANNUAL EVALUATION FOR YEARS 1 -5+

Municipality/Organization: Town of Marshfield, MA

EPA NPDES Permit Number: MA041048

MADEP Transmittal Number: W-036194

Annual Report Number
& Reporting Period: No. 15 March 2017–April 2018

NPDES Phase II 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: **April 30, 2018**

Part II. Self-Assessment

The Town of Marshfield's stormwater management activities for the 15th year of the General Permit (March 2017 through April 2018) were consistent with the Notice of Intent (Massachusetts DEP form BRP WM 08A) and schedule, submission dated July 21, 2003, however the cuts in the Towns operational budget have significantly reduced the amount of street sweeping and catch basin cleaning required on an annual basis. Sampling was reduced to target problem areas. The following assessment of activities that were included in the plan is provided below:

Public Education: 1. Continue Partnership with North and South River Watershed Association (NSRWA) (BMP ID No.1) The Town continues its support of NSRWA Greenscapes Program. Brochures and Reference guide are on display at the Town Hall and Marshfield's Stormwater Management Plan is referenced in the Town's CCR (Water Quality) Report.

(Website - http://www.townofmarsfield.org)

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

The Town added language to the Water Quality Report to emphasize Storm Water Management Plan. This information is sent out on an annual basis. The water quality report was sent out to all customers representing 98% of the Town.

The DPW contracts with the North and South River Watershed Association Greenscapes program to assist in Public Education. **Presentations were made to Marshfield second Graders at the Eames Way School, featuring " Water All Around You Program." A rack card created by the Greenscapes Coalition "Pet Waste Education Program with hand out "Scoop it" distributed to Town Clerk. A face book page was set up featuring timely Greenscape information created on a weekly basis including Water Smart business Program, rain barrel sale and Gardening Green Expo. Information is provided on NSRWA website (www.nsrwa.org)**

The CCR (Water Quality Report) is available at the DPW office.

3. Training Town Officials: As part of the new permit for beneficial reuse of catch basin cleanings,

the Town's consultant provided a refresher training on requirements with key highway personnel

on-sight on 2-8-2018. The DPW staff reviewed online Good House Keeping from Westfield State College webinar.

4. 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 Access is provided to the NPDES Phase II Small MS4 General Permit Annual Report.

Public Participation:

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

   The water level measuring devices placed along the Green Harbor River were operational up until February 2017 and DPW monitors the collection of data through a website connection and is the subscriber of the website. The State Office of Coastal Zone Management (CZM) has access to this data along with NSRWA who have historically been monitoring water quality of Green Harbor River. The Bass Creek Improvement and Airport Expansion Project is being monitored by consultant as part of Order of Conditions. The salinity has been high enough to thwart the growth of invasive species Phragmites. The second year monitoring Report by GZA dated March 7, 2016 concludes similar salinity and no reported blockages. There is some Phragmite growth in channel north of the runway. The 3 annual report dated 2-8-2017 reports similar salinity but some encroachment. **The fourth annual report dated January 25, 2018 reports additional Phragmites encroaching north of the airport runway. The airport management is considering purchasing a piece of equipment (to cost share with other airports) to address the issue.**

   Community Cleanup Days (BMP ID No. 5)

2. The Town conducted its annual "**Keep Marshfield Clean**" weekend on **April 28, 2018**. There were **3.77 tons of trash** collected, including **recyclables collected Town wide. There were approximately 200 people who participated in this event. The Town's Solid Waste Transfer Station also supports**

other neighborhood clean-up efforts. NSRWA participated with the Conservation Department through volunteer program and removed debris, trash from the river bank and select dead tree and brush from South River downstream of Cross St. (35 people), conducted litter and vegetative management along bridal path behind CVS (20 people), and the same over conservation land adjacent to Maryland Street (35 people).

3. The DPW, Town Assessors, and Conservation Commission and other volunteers from the general public developed an Open Space Plan. Watershed protection was the highest priority included in the evaluation criteria.

   Open Space Committee through CPC funding program failed to obtain approval from Town Meeting to purchase 9 acre parcel (H16-01-27) YMCA property for open space and other uses.

4. **The DPW provides the general public handouts promoting water conservation, recycling, composting at the Town Hall and sponsors distribution of Rain Barrels.**

Illicit Discharge Detection and Elimination:

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

The Town is in its 15th year developing GIS Mapping capabilities. The Town continues its contract with Maps Online for web accessible mapping. The Town has hired a new vendor and is in the process of developing new data management program for issuing work orders and tracking work.

No Sediment was removed from previous identified Detention Basins.

Approximately 200 feet of open drainage ditches were cleaned.

2. Potential Illicit Discharge locations previously identified through outfall screening process were reviewed for connectivity. Water Quality Testing (BMP ID No.4)

The Town hired a consultant to conduct outfall inspections and sampling, and to evaluate Riverside Circle Stormwater Sand Filter. Previous testing by Town personnel showed high level of fecal coliform entering and leaving the system. The Consultant reviewed connectivity in the field and sampled 8 structures with highest level detected in the filter at 240MPN/100ml. All samples were above DEP standard of 14MPN/100ml for Coastal Marine Classes. The effluent of this filter discharges to the North River (Marshfield Category 5 Waters). **The Town is considering options to replace media. Fecal Coliform testing was conducted again in April 2018 and the filters appear to be releasing higher levels of fecal Coliform (240CFU/100ml) than what is entering the filters (less than 20CFU/100ml). The Town will consider bypassing the filters.**

North River Drive drainage which historically has shown elevated Fecal Coliform levels requires investigation.

3. Regulatory Review (BMP ID No. 7)

A proposal was obtained from consultant to prepare MS4 Notice of Intent due in September 2017. The estimate included preparation of Stormwater Management Plan, written IDDE Plan, additional mapping, O&M planning for facilities, educational outreach for impaired waters, public participation, and training program and all shall be completed by July2018. (The estimated total cost is $87,000). There is $50,000 appropriated to accomplish a portion of the required work. **The Town delayed pursuing consultants to prepare the NOI and Management Plan last year based on the rescheduling of the permit deadline and uncertainty of the final approved scope of work. The Town will solicit proposals from consultants in May 2018.**

Construction Site Runoff Control:

1. Regulatory Review (BMP ID No. 7)

Stormwater management measures are required by subdivision regulation. The revised Water Resource Protection Bylaw approved April 2011, requires all site plan approvals and special permit applications within the WRPD to be reviewed by the Planning Board, the Special Permit Granting authority. **The WRPD now covers 5932 Acres within the Town.**

2. Permit Enforcement (BMP ID No. 8)

The Town has issued enforcement orders on the following subdivisions and or building sites to address erosion control problems during construction: **None issued.**

The following roads that have had individuals with enforcement issues related to construction site runoff:

Addressed through Conservation Agent:

Holly Road Chestnut Hill Subdivision uncontrolled erosion from construction near wetland
46 Preston Terrace- drainage issues unresolved requires significant structures on private property and permitting of outlet discharge in resource area.

SWPP 180 Enterprise Drive- monitoring no major issues
SWPP 1840 Ocean St. – monitoring no major issues
SWPP Webster Street – Pole work NSTAR (EVERSOURCE) – no major issues

Addressed through Zoning Officer:

Holly Road site construction erosion issues

Addressed through DPW Engineering Division:

Forest St. Drainage between Valley Path and Storage Tank on site leaching under capacity requires outlet structures and easements.

The DPW will investigate the possibility of installing drainage outfall and pursue funding in the fall.

The following developments were under construction and inspected periodically for compliance which included inspection of all erosion control measures:

1. **John Sherman Estates**
2. **Addelaide Subdivision**
3. **Horseshoe Farm**

Intermittent Inspection (Subdivision or Street Improvement mostly complete):

4. **Market Place (Proprietors Way)**
5. **Indiana St. – site conditions**
6. **Peregrine White Drive site development**
7. **Hingham Ave. site development**
8. **White Oak Farm**
9. **Chestnut Hill Subdivision**
10. **Highland Green Elderly Housing**

Other Projects requiring inspection:
Rockwood Road Ball Fields
Senior Center - new stairs at ballfield and new parking.

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

Illegal Dumping was reported:

Maryland Street - paint cans and construction debris found on roadside. The person responsible was discovered and agreed to community service.

Post Construction Site Runoff Control

1. Regulatory Review (BMP ID No. 7) The DPW hired a consultant to review the Town's Stormwater efforts and compliance with NPDES Permit. A meeting was held with the Town Planner, Town Administrator, DPW Director, Engineering staff, Town Building Officers and DPW hired consultant to discuss the upcoming new NPDES permit requirements, and past practice. Based on the review conducted by the consultant, draft Stormwater Management Regulations were developed and presented to the Board of Public Works on February 6, 2012 to address site plan review for new development and exemptions. The Board adopted the new regulations August 20, 2012. **No changes made in 2017.**

2. Permit Enforcement (BMP ID No. 8)

   None

Municipal Good House Keeping:

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

   The DPW swept 80 miles of roads within the Town yielding 65 CY of sediment. (funding for hiring outside vendors to sweep the entire town was cut)

   A Sediment Critical area was established within the Tributary area of Bass Creek requiring additional sweeping - Ditches were cleaned by Mosquito control in this area. Catch basins were cleaned on Foster Ave. after the January Coastal storm. There was extensive flooding and erosion in the area of Brook Street due to the breach in the seawall batter boards that required cleanup.

   The Town removed over 1000 CY of sediment from the streets in Brant Rock, and from other streets adjacent to the coast and spent over $350,000 in contract services to clean up the area due to the coastal storms in January 2018 and in March of 2018.

2. Improved Catch Basin Cleaning (BMP ID No. 12) **The Marshfield Highway Department cleaned only 100 catch basins (less than 10 CY sediment) in the Town (funds unavailable) during the period (non- storm related).**

3. Household Hazardous Waste Days: (BMP ID No. 13) **The Town conducted its Household Hazardous Waste Day on September 16, 2017.**

4. The Town accepts **waste oil and paint** from May to November at the Transfer Station.

5. The Town conducts **roadside clean-up with seasonal personnel** several times a week during the summer (16 Weeks)

6. Drain Stenciling: (BMP ID No. 14) **The Town has taken no action.**

7. The Town received final approval and permit for Beneficial Use Determination (BUD) to reuse catch basin cleanings from DEP in August of 2013. The Town's Consultant sampled a pile consisting of 750CY of CBC and analysis concluded elevated EPH, and SVOC's, and lead. No CBC was disposed of, no CBC was reused as soil amendment in public area or transfer station or utility project. **There was no reuse of accumulated material in 2017/2018 reporting period.**

BMP's for Meeting TMDL:

Water Quality Testing (BMP ID No. 4)

1. Sediment was retested in April 2010 as required by DEP to support Permitting of Bass Creek Dredging Phase I . The Bass Creek which is tributary to the Green Harbor River and is heavily obstructed by vegetation and sediment. The Town obtained Permits to conduct maintenance dredging of the Bass Creek and applied and obtained a Benificial Use Determination in 2010 to dispose of the sediment. Approximately 250 CY of sediment was removed in January 2011which represented about 20% of the total dredging required in Phase I. The dredge sediment was combined with yard waste and composted during the summer 2011 and winter 2012. The compost was retested for metals and salinity February 2012. The amended soil from compost was used on the RTR BMP and Dredge Spoils Area (DSA) to stabilize slopes with grass in June of 2012. **Dredge spoils from the** completion of phase I were brought to the transfer station (800CY) for composting in March of 2014. The compost was tested prior to beneficial reuse. The mix will require sand and loam mix in

order to render composite to meet bud standard. A loam source and sand source was identified and used to make composite sample. The sample was analyzed and it met the bud standard. No funding was available to mix and screen the material for beneficial reuse. **The material remains stock piled.**

Background: Water quality testing was performed in the Green Harbor River. The Town received the draft report on Green Harbor River Tidal Hydraulics Study, by Applied Coastal Research and Engineering, Inc. March 2007 and draft report on Hydrology and Ecological Analysis of the Upper Green Harbor River, by Dr. David S. White & Dr. Brian L. Howe's Coastal Systems Program February 23, 2007. Louis Berger Group Inc. is the Prime Contractor. This study was funded by a Grant obtained through CZM and the Gulf of Maine Council on Marine Environment. The Tidal Hydraulics portion of the study considered the impact of altering the flow through the tide gates for the purpose of improving the water quality of a severely degraded upper Green Harbor. The water quality portion of the project involved estimate of freshwater flow and nutrient discharge from the fresh water portion of the Green Harbor River, evaluate the nutrient loading from two tributaries Bass Creek and Wharf Creek, and evaluate sediment/ porewater constituents in restricted and unrestricted wetland habitats within the Green Harbor River. The DPW helped fund the project by providing Topographical Survey of the area with one foot contour accuracy. The DPW provided contract labor to support inspection and manipulation of the tide gates. The Town has purchased the adjustable tide gate for Dyke Rd. funded through a CZM grant program ($20,000). The Tide Gate was installed in December 2009. The gate has been adjusted open on a gradual basis to observe its effectiveness. **Note: The Town applied and received a matching grant in the amount of $71,250 from State EOEEA to assess alternatives for reducing flooding of abutting property within Green Harbor Estuary while still maintaining water quality. See drainage project listed below, " Green Harbor Tide Gate Study".**

2. 2009-05/ARRA 604 South River Bacteria Assessment Project, Town of Marshfield South River has history of being impaired by Pathogens. The Town hired consultant CEI and NSRWA to conduct a bacteria assessment study to determine areas of high bacteria contributing to the South River, and to recommend BMP's to provide removal of TSS and bacteriological treatment. A total of 30 sites tributary to the South River were tested. Sites were prioritized and three sites were selected. BMP's were brought to 30 % design for each of those 3 sites. NSRWA conducted follow up testing in 2011. **The 2 sites at 30% design involve taking easements and interfacing with plans to expand Library. These projects are on hold.**

3. South River NPS Implementation Coastal Pollutant Remediation Grant: The Town applied and in January 2012, the Town

received a grant ($51,980) to prepare final design for two of the BMP sites and to permit and construct one of the sites. Final Plans were prepared and the NOI was submitted and the hearing was conducted the first week in April 2012. Construction of RTR Outfall and Bio-retention area was completed in June 2012. Punch list items were completed in 2013. The Town had Plymouth County Mosquito Control clean out the blocked RTR BMP outfall drainage ditch this past winter. A hole in the outfall pipe was detected upon inspection and the vegetation planted within the bio-retention area was found damaged by heavy equipment of unknown source. **Repairs were not made last spring.**

Implementation of other BMP's. :

The DPW plans on implementing a proposed drainage improvement at the Union St. Bridge. The bridge reconstruction was completed in fall 2009. The State Highway Dept. participated in the proposed improvement by constructing the low flow bypass within the drainage system within the paved areas and limit of work during the bridge reconstruction project in the summer of 2009 at DPW's request. The DPW will be working with the Conservation Agent and NSRWA to implement the proposal. **No progress has been made on this BMP.**

Storm Water Modeling (BMP ID no. 15)

1. The Town hired Amory Engineers to design BMP in Ferry St. at Medford St. – Modeling is underway to determine impact to wetland. The drainage structures have been sized and a plan has been prepared. The Town has met with the Conservation Commission and a NHESP representative and prepared and filed a MESA Review check list for consideration of proposed drainage structures and work within an area designated as Priority Habitat. Design modifications were required and was modeling adjusted in fall of 2010 to handle additional stormwater and to change outfall location. A notice of intent will be filed in Spring of 2011. **The model was created and design was completed, however the NOI application had to be withdrawn due to potential litigation. The Town is pursuing an alternative design.**

Status of the following drainage improvement projects:

Ferry St. (Drainage from Medford St.)	Notice of Intent was prepared, submitted and withdrawn. Several options are being considered pending results of ongoing litigation. **A settlement was reached and conditions of agreement are being addressed. The Town obtained an easement for the drainage outlet. The situation is still unresolved and getting complicated by future development proposals.**
Summer St. Drainage	Obtained partial funding ($100,000) ATM April 2009 Part of drainage modification was completed in 2009 and 500Lf of drainage system remain to be designed, permitted and constructed. The field survey has been conducted. The design is complete. A tree hearing is required prior to submitting the NOI. Work was scheduled for 2014. **The Murdock Pond outlet structure in Damons Point Road must be repaired prior to obtaining permission to outlet Summer St. drainage into the privately owned pond. The Town is responsible for maintaining the pond outlet structure. The DPW authorized use of CH90 funds in March 2017 to complete design and permitting. The consultant has presented an alternative design. The DPW will be considering alternatives before proceeding with final design. Upon completion of permitting and if progress is made on the outlet structure, the Town will commence work on Summer St. drainage. The Capital Budget Committee did not recommend funding the repair of the outlet structure at the April 2018 Town Meeting.**
Bass Creek dredging/channel restoration	

Permits were issued in October 2013 and the FAA provided $400K to dredge the remaining portion of Bass Creek. Bids were solicited and contractor selected. Dredging commenced in February and was completed by April 4, 2014. Final site restoration is substantially complete. Major blockages were removed allowing the area upstream to drain. The water levels upstream were lowered several inches as a result of the project. This work provided significant flood mitigation for the residential area located upstream. The Airport Management and hired consultants are monitoring the salinity and condition of the creek.

In April 2013, the Town voted to purchase 9.8 acres of Marshland abutting Bass Creek for additional access point to remove sediment. The Airport was used for access to Bass Creek for dredging Phase I while it was shut down and under construction. **The fourth annual post construction report dated January 2018 was received. There are signs of Phragmitee encroaching on channel in a section upstream of the runway.**

Stormwater Management Plan

The Town prepared a SWMP to reduce the sediment entering Bass Creek and submitted it to DEP as required by the permit. Upon receiving comments a final plan was revised and re-submitted prior to receiving NTP to start dredging from DEP. The revised plan dated February 10, 2014 was reviewed with The highway Foreman. There was partial compliance evident including the construction of BMP at 715 Ocean St. The plan was reissued to the Asst. Supt. of Public Works (New Position) for enforcement. **The Asst. DPW Supt. is monitoring the area.**

Reduction of Sand in Sand-Salt Mixture to Treat Roads

Several trucks were outfitted with liquid applicators to make road salt more effective and the amount of sand used was reduced.

More trucks were outfitted in 2013. A new salt shed was constructed in summer of 2013 on Parsonage St. at the highway garage to reduce amount of salt storage on Clay Pit Road. The amount of sediment removed from catch basins was reduced by 50 %. **The reduced budget and therefore the reduction of catch basin cleanings collected and reduced amount of street sweepings collected make it impossible to see trends in reduction of sediment created by the use of liquid treatment in lieu of sand for winter season. In the surf Ave and Foster Ave Area, the 2 feet higher elevation of the seawall for over 4000LF has reduced overtopping and there has been some reduction of sediment transport into the sediment critical area during moderate coastal storms. However the January and March Storms were record setting storms and significant levels of sediment was transported to the drainage system.**

Other related projects:

EPA Phase II- SW Compliance Testing and Mapping

Drainage System Mapping and GIS Drainage Layer under way Design Contract issued ($9,500). The map is partially complete. **Direction of flow is being added to the plan.**

Future BMP

The Town appropriated $50,000 at ATM April 2013 to meet new permit requirements and for BMP construction. Conceptual designs for six BMP sites were identified in the Bass Creek Area.
BMP no. 1 was constructed at 715 Ocean Street and it appears to have addressed the issue.

	BMP no. 2 FY2017 Bass Creek Area- Storm Drain Catch Basin filters 40 of 140 catch basins – Pilot Study $10,000 Put on hold due to funding.
Integrated Water Resource Management Plan - Phase I	The Draft of Phase I of the IWRMP Report was prepared by hired consultant and submitted to DPW in January 2013. Final comments were prepared and provided to consultant and the consultant provided recommendations for Phase II Scope of Work. The final Report was received in October 2014. The Sewer collection system model was developed as recommended in the IWRMP. Significant WWTF pump station upgrades including the Main Lift Upgrade, Central St. Pump Station Rehab., Avon Street Pump station Rehab. and a new WWTF screening and grit removal system were constructed and placed in service.($6.5M) **Sewer Model Calibration was completed. Funding was approved at the ATM April 2018 to install Flow meters in three sewer pump stations to help evaluate inflow and infiltration.**
Sewer Needs Assessment Kent Park and Black Mount Area	The Draft Sewer Assessment prepared by hired consultant submitted in September to the DPW in September 2012. Comments were made and the report was finalized in 2013. **There has been no further discussion to sewer Kent Park or Black Mount area.**
New Vac Truck	**The request for new a Vac Truck was denied by the Capital Budget Committee in April 2018. The Town spent over**

	$100,000 repairing the Vac truck in 2017. The Vac truck is operated by the Wastewater Division and used by the Highway Division when available.
Stormwater MS4 Phase II Program Permit Compliance	The DPW is under contract with Consultant to do the following: Prepare Notice of Intent for submittal to EPA within 90 days of issuance of final permit. **The new MS4 permit will be issued in July 2018 pending result of lawsuit.** **The Town will seek additional proposals from consultants based** **on the revised scope of work. The NOI is due in September 2018.**
Online Mapping, Field Verification, and Data Management **track work and to obtain and record field data**	**The DPW is implementing a new data management system to** **The system will be implemented by June 2018.** The Town continues to utilize Maps Online for web based mapping with annual cost of $11,000.
Naomi Street Drainage System Upgrade	Reconstruct 300 feet of drainage and outfall with tide gate and water quality inlet. The design is complete permitting remains. Permitting was complete and the Town hired a contractor and constructed the drainage work in the fall of 2016. **Grading, paving, and site restoration was completed in 2017. The Conservation Dept. is considering requesting a modification to the armor stone currently used at the outlet pipe end and in**

	favor of soft solution for the salt marsh.
Rockwood Road Ball Fields	**Upper Ball fields and proposed drainage collection system was partially completed in the fall 2017. Temporary erosion control measures were put in place. The remaining drainage will be installed in spring of 2018. The out fall is being redesigned.**
Green Harbor Tide Gate Study- Grant Funded	Consultant was hired to conduct hydraulic study of tide gates to assess alternatives for reducing flooding within Green Harbor River Estuary and abutting property while maintaining water quality achieved by introducing tidal movement and salinity upstream of the Dike. ($95,000). **This work was completed in June 2017. The consultant is recommending a larger structure to allow more flow out of the estuary or an additional structure to be constructed east of the existing structure. At this April 2018 Town Meeting, the DPW requested $60,000 to dewater the structure, inspect, conduct evaluation, and conduct preliminary design of chosen alternative. The Capital Budget Committee did not recommend the funding. The project is on hold.**
Riverside Circle Sand Filter Media	**Filter Media was not removed from the sand filter in 2017 due to the Vac truck being out of commission in 2017. Work to be accomplished spring of 2018.**
Foster Ave Seawall Replacement with higher wall	**A 1200 LF section of Foster Ave seawall was completed in October 2017 ($4.2M State and Town funded project) which significantly reduced waves from overtopping and sediment from impacting the backshore and street drainage system. Flooding was reduced in the low lying areas along Plymouth Ave.**

Brant Rock Seawall Repair

Design and Permitting was completed in April 2018 to replace and repair a 550 LF section of seawall. The seawall design includes increasing the height of seawall by 3.5 feet in Brant Rock between 328 Ocean Street and North Street. The new seawall will reduce flooding in Brant Rock esplanade and reduce the amount of sediment impacting the street drainage system in the area. The Town received a $1.8M grant in January 2018 from the state to construct the new $2.5M seawall.

End of Report.

APPENDIX J

MINIMUM CONTROL MEASURES BMPs

Town of Marshfield, Massachusetts

MA MS4 General Permit - Control Measures

CM #1 - Public Education and Outreach

BMP ID	BMP Categorization	BMP Description	Targeted Audience	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	**Brochures/Pamphlets**	Publish outreach materials; Distribute new resident packets to residents within Wetland Protection	Residents (1)	DPW Operations/Engineering, NSRWA	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
R2	**Brochures/Pamphlets**	Include information in permit materials.	Businesses, Institutions, and Commercial Facilities (2)	DPW Operations/Engineering, NSRWA	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
R3	**Brochures/Pamphlets**	Include information in permit materials; Review and Update application forms to meet the new requirements.	Developers (construction) (3)	DPW Operations/Engineering, NSRWA	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
R4	**Brochures/Pamphlets**	Distribute information to industrial groups based on zoning and property use.	Industrial Facilities (4)	DPW Operations/Engineering, NSRWA	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
R5	**Web Page**	Develop/maintain stormwater website and/or utilize Town social media for outreach. Provide specific information directed towards residences.	Residents (1)	DPW Operations/Engineering, NSRWA	Town web site is operational with water quality links available through multiple committee and department pages	2018
R6	**Web Page**	Develop/maintain stormwater website and/or utilize Town social media for outreach. Provide specific information directed towards businesses, institutions, and commercial facilities	Businesses, Institutions, and Commercial Facilities (2)	DPW Operations/Engineering, NSRWA	Town stormwater web site is operational and includes section directed toward targeted audience	2018
R7	**Web Page**	Develop/maintain stormwater website and/or utilize Town social media for outreach. Provide specific information directed towards developers	Developers (construction) (3)	DPW Operations/Engineering, NSRWA	Town stormwater web site is operational and includes section directed toward targeted audience	2018
R8	**Web Page**	Develop/maintain stormwater website and/or utilize Town social media for outreach. Provide specific information directed towards industrial facilities	Industrial Facilities (4)	DPW Operations/Engineering, NSRWA	Town stormwater web site is operational and includes section directed toward targeted audience	2018

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CM #2 - Public Involvement and Participation

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	**Public Review**	SWMP Review	DPW Operations/Engineering	Allow annual review of stormwater management plan and posting of stormwater management plan on website	2018
R2	**Public Participation**	SWMP Review	DPW Operations/Engineering	Allow public to comment on stormwater management plan annually	2018

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CM #3 - Illicit Discharge Detection and Elimination (IDDE) Program

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	**SSO Inventory**	Develop septic inventory in accordance with permit conditions	DPW Operations/Engineering	Complete within 1 year of effective date of permit	2018
R2	**Storm Sewer System Map**	Create map and update during IDDE program completion	DPW Operations/Engineering	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2018
R3	**Written IDDE Program Development**	Create written IDDE program	DPW Operations/Engineering	Complete within 1 year of the effective date of permit and update as required	2018
R4	**Implement IDDE Program**	Implement catchment investigations according to program and permit conditions	DPW Operations/Engineering	Complete 10 years after effective date of permit	2018
R5	**Employee Training**	Train employees on IDDE implementation	DPW Operations/Engineering	Train annually	2018
R6	**Conduct Dry Weather Screening**	Conduct in acordance with outfall screening procedure and permit conditions	DPW Operations/Engineering	Complete 3 years after effective date of permit	2018
R6	**Conduct Wet Weather Screening**	Conduct in acordance with outfall screening procedure	DPW Operations/Engineering	Complete 10 years after effective date of permit	2018
R7	**Ongoing Screening**	Conduct dry weather and wet weather screening as necessary	DPW Operations/Engineering	Complete ongoing outfall screening upon completion of IDDE program	2018

Town of Marshfield, Massachusetts

MA MS4 General Permit - Control Measures

CM #4 - Construction Site Stormwater Runoff Control

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	**Site inspection and enforcement of Erosion and Sediment Control (ESC) measures**	Complete written procedures of site inspections and enforcement procedures	DPW Engineering, Conservation Committee, Planning Board, Zoning Board of Appeals	Complete within 1 year of the effective date of permit	2018
R2	**Site plan review**	Complete written procedures of site plan review and begin implementation	DPW Engineering, Conservation Committee, Planning Board, Zoning Board of Appeals	Complete within 1 year of the effective date of permit	2018
R3	**Erosion and Sediment Control**	Adoption of requirements for construction operators to implement a sediment and erosion control program	DPW Engineering, Conservation Committee, Planning Board, Zoning Board of Appeals	Complete within 1 year of the effective date of permit	2018
R4	**Waste Control**	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	DPW Engineering, Conservation Committee, Planning Board, Zoning Board of Appeals	Complete within 1 year of the effective date of permit	2018

Town of Marshfield, Massachusetts

MA MS4 General Permit - Control Measures

CM #5 - Stormwater Management in New Development and Redevelopment

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	**As-built plans for on-site stormwater control**	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP	DPW Engineering, Planning Board, Zoning Board of Appeals	Require submission of as-built plans for completed projects	2018
R2	**Inventory and priority ranking of MS4-owned properties that may be retrofitted with BMPs**	Conduct detailed inventory of MS4 owned properties and rank for retrofit potential	DPW Engineering, Planning Board, Zoning Board of Appeals	Complete 4 years after effective date of permit and report annually on retrofitted properties	2022
R3	**Allow green infrastructure**	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist	DPW Engineering, Planning Board, Zoning Board of Appeals	Complete 4 years after effective date of permit and implement recommendations of report	2018
R4	**Street design and parking lot guidelines**	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options	DPW Engineering, Planning Board, Zoning Board of Appeals	Complete 4 years after effective date of permit and implement recommendations of report	2022
R5	**Ensure any stormwater controls or management practices for new development and redevelopment meet the retention or treatment requirements of the permit and all applicable requirements of the Massachusetts Stormwater Handbook**	Adoption, amendment or modification of a regulatory mechanism to meet permits requirements	DPW Engineering, Planning Board, Zoning Board of Appeals	Complete 2 years after effective date of permit	2020

Town of Marshfield, Massachusetts

MA MS4 General Permit - Control Measures

CM #6 - Good House Keeping and Pollution Prevention for Permittee Owned Operations

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	**O&M procedures**	Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment	DPW Operations/Engineering	Complete and implement 2 years after effective date of permit	2018
R2	**Inventory all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment**	Create inventory	DPW Operations/Engineering	Complete 2 years after effective date of permit and implement annually	2019
R3	**Infrastructure O&M**	Establish and implement program for repair and rehabilitation of MS4 infrastructure	DPW Operations/Engineering	Complete 2 years after effective date of permit	2019
R4	**Stormwater Pollution Prevention Plan (SWPPP)**	Create Stormwater Pollution Prevention Plan (SWPPP) for maintenance garages, transfer stations and other waste- handling facilities	DPW Operations/Engineering, Conservation Committee	Complete and implement 2 years after effective date of permit	2019
R5	**Catch Basin Cleaning**	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	DPW Operations	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018
R6	**Street Sweeping Program**	Sweep all strets and permitee-owned parking lots in accordance with permit conditions	DPW Operations	Sweep all streets and permitee-owned parking lots once per year in the spring	2018
R7	**Road Salt use optimization program**	Establish and implement a program to minimize the use of road salt	DPW Operations	Implement salt use optimization during deicing season	2018
R8	**Inspections and maintenance of stormwater treatment structures**	Establish and implement inspection and maintenance procedures and frequencies	DPW Operations/Engineering	Inspect and maintain treatment structures at least annually	2018

Town of Marshfield, Massachusetts

MA MS4 General Permit - In State Water Quality Impairments

Bacteria and Pathogens

BMP ID	BMP Categorization	BMP Description	Targeted Audience	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	**Public Education and Outreach**	Distribute annual message encouraging the proper management of pet waste	Residents	DPW Operations/Engineering, NSRWA	Annual distribution of educational messages over the permit term (5 years)	2018
		Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a bacteria or pathogen impaired waterbody	Residents	DPW Operations/Engineering, NSRWA	Provide septic maintenance information to septic contractors to distribute to residents.	2018
R2	**Illicit Discharge**	Prioritize catchment areas		DPW Operations/Engineering	Complete within 1 year of the effective date of permit and update as required	2018

Town of Marshfield, Massachusetts

MA MS4 General Permit - In State Water Quality Impairments

Solids, Oil and Grease, or Metals

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	**Stormwater Management in New Development and Redevelopment**	Stormwater management systems designed on commercial and industrial land use areas draining to the water quality limited waterbody shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event.	DPW Engineering, Planning Board, Zoning Board of Appeals	Implement BMPs that allow for the prevention of metals being discharged into impaired bodies of water	2018
R2	**Good House Keeping and Pollution Prevention for Permittee Owned Operations**	Increase street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads.	DPW Operations/Engineering	Increase street sweeping frequency at target areas with potential for high pollutant loads	2018
R3		Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full.	DPW Operations/Engineering	Review catch basin cleaning records annually to prioritize mainenance	2018
R4		Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.	DPW Operations/Engineering	Include street sweeping schedule in annual report	2018