Stormwater Management Program (SWMP): Volume 1

NPDES Phase II Small MS4 General Permit

June 2019

STORMWATER MANAGEMENT PLAN



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Town of Bridgewater, MA

NPDES Phase II Small MS4 General Permit

STORMWATER MANAGEMENT PLAN

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Prepared for: Town of Bridgewater

June 27, 2019

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Certification:

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

Signature.

Printed Name:

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Title:

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1.0 EXECUTIVE SUMMARY

Each community with a municipal separate storm sewer system (MS4) in designated urbanized areas must develop a Stormwater Management Program (SWMP) that will guide its activities under the 2016 MS4 general permit. This SWMP was developed by the Town of Bridgewater to protect water quality and reduce the discharge of pollutants from the municipality's storm sewer system to the maximum extent practicable (MEP) as described herein.

The SWMP is comprised of four volumes. This report is Volume 1 of 4.

- SWMP Volume 1 Stormwater Management Plan
- SWMP Volume 2 Illicit Discharge Detection and Elimination (IDDE) Plan
- SWMP Volume 3 Good House Keeping and Pollution Prevention
- SWMP Volume 4 Annual Reporting

Written plans for SWMP Volumes 1 and 2 are required to be completed by the end of year 1 of the permit term (June 30, 2019). Written plan for Volume 3 is required to be completed by the end of year 2 of the permit term (June 30, 2020). Volume 4 compiles the documentation required over each reporting period (July 1 to June 30) for assembly of annual reports due September 30th each year.

All documents are available for review and comment on the Town of Bridgewater Stormwater Website as follows:

Stormwater Webpage is located here:

https://www.bridgewaterma.org/1404 /Stormwater-Management



2.0 Introduction & Background

2.1 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 Areas are required to seek NPDES permit coverage for those stormwater discharges.

2.2 PERMIT PROGRAM BACKGROUND

On May 1, 2003, EPA Region I issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4-2003 permit) consistent with the Phase II rule. The MS4-2003 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, hereinafter referred to as the Permit, which became effective on July 1, 2018.

2.3 TOWN SPECIFIC MS4 BACKGROUND

Bridgewater has 25 water body segments that receive flow from the MS4 with two (2) designated as a Category 5 Water, one (1) designated as a Category 4A Water, and one (1) designated as a Category 4C Water. The Taunton River Watershed has a watershed-wide TMDL for bacteria. Additionally, all waters within the Taunton River Watershed have a nitrogen impairment. Bacteria and nitrogen are impairments that require specific action under the Permit. Additional impairments and required actions are described in detail in **Section 5.0** of this report.

The Town of Bridgewater's MS4 is composed of pipes, catch basins, manholes, culverts and outfalls discharging to wetland areas, streams, lakes, ponds and rivers. Drainage structures within the Town's MS4 include:

- 105 outfalls from the Town database that were either located or assumed to exist based on dry weather outfall screening
 - 83 assumed Town-owned based on ownership designation in Town database, where applicable, or a distance greater than 30 feet from nearest state road
 - 22 assumed state-owned based on ownership designation in Town database, where applicable, or a distance less than 30 feet from nearest state road

A storm sewer system map is included as part of the Illicit Discharge Detection and Elimination (IDDE) report, which is located in **SWMP Volume 2**. The map includes Town and State-owned outfall locations and identifies the impaired water bodies and the MS4 areas tributary to each.



Massachusetts Department of Transportation (MassDOT) has several roads within Bridgewater including Bedford Street (MA Route 28), Broad Street (MA Route 18), Amvets Memorial Highway (MA Route 24), and Interstate 495. MassDOT is required to have their own NPDES MS4 Permit for their properties, which are therefore not the responsibility of the Town.

2.4 STORMWATER MANAGEMENT PROGRAM (SWMP)

The Town was previously authorized by the MS4-2003 permit which had established six minimum control measures, Best Management Practice (BMPs) and measurable goals to meet the terms and conditions of that permit. This SWMP is a modification and update to the previous plan and efforts.

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 Town's plans and activities. The document will 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 change public behavior causing stormwater pollution, (2) an opportunity for the public to participate in 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.

This document will be made available at the office of the Community & Economic Development Department and on the Town website. The Permit covers the following which are included in this SWMP Plan:

- Identification of Responsible Parties;
- Endangered and Threatened Species and Historic Properties Protection;
- Increased Discharges and Discharges to Waters with TMDLs or Subject to Additional Requirements;
- Implementation of Six Minimum Control Measures;
- Sanitary Sewer Overflow Inventory;
- Surface Drinking Water Supply Protection; and
- Annual Program Evaluation.

2.5 IMPLEMENTATION SCHEDULE AND STATUS

MS4 General Permit implementation timeline and current status is shown in Figure 2-1.



Figure 2-1: Town of Bridgewater MS4 Permit Compliance Schedule

			1	Comp	lete Di	ıring/B	y Year	(Vr 1 ic	July 20	19. lur	2010	<u>, , , , , , , , , , , , , , , , , , , </u>
CM	Task	Date Required	1	2	3	4	5	6	7	8	9	10
	Notice of Intent (NOI)	9/30/2018		ı								
	Stormwater Management Plan - SWMP (update/develop)	6/30/2019										
	SWMP update	Annually										
MIN	IIMUM CONTROL MEASURES											
1	Public Education and Outreach Messages											
	Residents - 2 messages*	By yr 5, min. 1 year apart	*									
	Businesses & Institutions- 2 messages*	By yr 5, min. 1 year apart	*									
	Developers - 2 messages	By yr 5, min. 1 year apart										
	Industrial Facilities - 2 messages	By yr 5, min. 1 year apart										
2	Public Involvement and Participation	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							1		I	
	Public Review of SWMP & Annual Report	Annually										
	Opportunities for Public Participation	Annually										
3	Illicit Discharge Detection & Eliminiation (IDDE)*											
	Sanitary Sewer Overflows Inventory	6/30/2019										
	System Mapping - Phase 1, inc. catchment delineations	6/30/2020										
	System Mapping - Phase 2	Update Annually		_								
	Written IDDE Program	6/30/2019										
	Outfall/Interconnects Inventory & Initial Catchment Ranking*	6/30/2019										
	Outfall/Interconnects Catchment Ranking Updates	Update Annually										
	Dry Weather Screening & Sampling	By yr 3 & every 5 yrs										
	Catchment Investigations Procedures	12/31/2019										
	Catchment Investigations Problem Outfalls	6/30/2025										
	Catchment Investigations All Outfalls	6/30/2028										
	Wet Weather Sampling	part of catchment invest.										
	Illicit Discharge Elimination (Locate & Remove)	60 Days from source ID 1 yr after removal										
	Confirmatory Dry Weather Screening Training	annually										
4	Construction Site Runoff Control	annuany										
	Construction Site Inspections & Enforcement Proceedures	6/30/2019										
	Site Plan Review Procedures	6/30/2019										
	Requirement for Construction Site Erosion Controls	6/30/2019										
	Construction Site Waste Control Requirements	6/30/2019										
5	New Development and Redevelopment											
	Update Regulations - Retention/Treatment	6/30/2020										
	Assess Street Design & Parking Guidelines	6/30/2022										
	Assess Regulations to allow Green Infrastructure	6/30/2022										
	Locate 5 Properties for Impervious Area Reduction	6/30/2022										
6	Good Housekeeping											
	Winter Road Maintenance Procedures	6/30/2019			_							
	O&M, SWPPP & Infrastructure Program	6/30/2020			_	_		_				
	Training for O&M and SWPPP Program Activities	Regularly / As Needed										
	Catchbasin Cleaning Schedule Catchbasin Cleaning	6/30/2019 when 50% full										
	Street Sweeping*	Spring (& Fall for Nitrogen)										
	Inspections for SWPPP	Quarterly			+	ΗП	ΗП	Ш	ΗП	Ш	Ш	
	Inspection of Structural BMPs	Annually			ш	ш		ш				Ш
	Maintenance of Structural BMPs	as needed										
NI:+-	rogen Source Identification Report	astieeded										
INIU												
	Report											
	Evaluate Properties for BMP retrofits, provide plan & schedule		-									
<u>_</u>	Implement Plan											
Pho	sphorous Source Identification Report											
	Report											
	Evaluate Properties for BMP retrofits, provide plan & schedule											
	Implement Plan				_	_	_					
Ann	ual Reports	by 9/30 annually										
	*Supplement requirements for Bacteria TMDL to Matfield River,	Taunton River, all receiving			5/30/2	019						
	waters.	-		Com	olete			Futur	e Year	Task		

3.0 SMALL MS4 AUTHORIZATION

The Notice of Intent (NOI) containing the information in Appendix E of the Permit was submitted to EPA on March 29, 2019.

EPA has completed its initial review and posted the NOI on the following website: https://www.epa.gov/npdes-permits/regulated-ms4-massachusetts-communities.

The Town will be authorized to discharge under the Permit upon receipt of written notice from EPA following a 30 day public review and comment. Responses to comments received and the authorization letter will also be posted to the above website.



4.0 IDENTIFICATION OF RESPONSIBLE PARTIES FOR IMPLEMENTATION OF PROGRAM

The implementation and coordination of this program is the responsibility of Community & Economic Development Department, specifically the Town Engineer.

SWMP Team Coordinator

Name:	Azu Etoniru	Title:	Town Engineer	Department:	Community & Economic Development			
Phone:	508-697-0906	Email:	aetoniru@bridgewaterma.org					
Responsibilities: MS4 Coordinator, IDDE Program, Plan Review, Good housekeeping, SWPPP								

SWMP Team

Name:	Jennifer Burke	Title:	Director	Department:	Community & Economic Development			
Phone:	508-697-0950	Email:	Jburke@bridgewaterma.org					
Responsibilities: Public Education and Outreach, Public Participation, Stormwater Bylaw/Regulations, Good Housekeeping, Reporting & Record Keeping								

Name:	Michael Dutton	Title:	Town Manager	Department:	Department of Public Works		
Phone:	508-697-0919	Email:	townmanager@bridgewaterma.org				
Responsibilities: IDDE Program, Inspection, Construction Site SW Control, Post Construction SWM, O&M of facilities							

Name:	Marilee Hunt	Title:	Town Clerk	Department:	Town Clerk's Office			
Phone:	508-697-0921	Email:	mkhunt@bridgewaterma.org					
Responsibilities: Public Education and Outreach & Record Keeping								

Name:	Eric Badger	Title:	Health Agent	Department:	Health Department			
Phone:	508-697-0903	Email:	ebadger@bridgewaterma.org					
Responsibilities: Public Education and Outreach & Record Keeping								



5.0 RESOURCE PROTECTION

5.1 ENDANGERED AND THREATENED SPECIES

The Permit requires applicants to assess the impacts of their stormwater discharges and discharge related activities on federally listed endangered and threatened species and designated critical habitat.

An ESA section 7 consultation with U.S. Fish and Wildlife Service (USFWS) was provided for the March, 2019 NOI. Based on correspondence with USFWS, two federally listed endangered species of concern that may occur within the Town boundary were identified. These species include the Northern Long-eared Bat and the Plymouth Redbelly Turtle. The ESA section 7 consultation provided for the NOI determined eligibility for Endangered Species Act (ESA) under Criterion B and certified that the proposed activities under the permit, and as described in this SWMP, are not likely to adversely affect the Northern Long-eared Bat or the Plymouth Redbelly Turtle if the following project requirements are met:

- All stormwater discharges are pre-existing or previously permitted by the EPA;
- 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;
- The project implements EPA MS4 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;
- No new construction or structural BMPs are proposed under this permit at this time; and
- If, during the course of the Permit term, the Town plans to install a structural BMP not identified in the NOI, the Town will re-initiate consultation with USFWS as necessary.

The aforementioned requirements are all met under this Permit and as such there is no reason to believe that the stormwater discharges, allowable non-stormwater discharges and discharge related activities will have any adverse effect on the aforementioned species or any other listed species or critical habitat. If any future stormwater projects or activities are proposed the Town acknowledges that they will have to re-initiate either informal or formal consultation with USFWS as required under the MA MS4 General Permit Appendix C: Step 2(5).

The Environmental Overview Map in **Appendix A** includes Natural Heritage and Endangered Species Program (NHESP) estimated habitats of rare wildlife, priority habitats of rare species, certified vernal pools and wetlands. Future stormwater projects and activities proposed within these areas will require review for compliance with the Massachusetts ESA (M.G.L. Chapter 131A), the Wetlands Protection Act (M.G.L. Chapter 131 Section 40) and the Town of Bridgewater Wetlands Protection By-law (Article XXXIII).

5.2 HISTORIC PROPERTIES

The MS4 Permit requires applicants to take into account the effects of Federal undertakings on historical properties that are either listed on or eligible for listing on the National Register of Historic Places. The NOI identified eligibility for National Historic Preservation Act under Criteria A. The proposed BMPs outlined in this program have no potential to affect any historic properties because no changes to the existing MS4 infrastructure are being proposed at this time.



The Environmental Overview Map in **Appendix A** includes the Massachusetts Historical Commission's (MHC) inventory of historic points and areas. Future stormwater projects and activities proposed in and around these properties should be referenced against this map as well as the state register. The state register provides an up to date comprehensive listing of buildings, structures objects and sites that have received local, state or national designations based on their historical or archaeological significance.

5.3 SUMMARY OF RECEIVING WATERS AND IMPAIRMENTS

Surface Water Quality Standards (SWQS) are provided by the Massachusetts Department of Environmental Protection (DEP). They are determined for a water body's designated use. The SWQS designate the uses that surface waters are protected for, and an assessment is performed to determine if the designated uses are met by the water bodies. The use is not assessed in instances when there is insufficient data or information. Assessment information is maintained by the DEP in the Water Body System (WBS) database, which is updated every two years. Designated uses include:

- Aquatic Life
- Fish Consumption
- Primary Contact Recreation (Swimming)
- Secondary Contact Recreation (Boating)
- Aesthetics

The aquatic life use is supported when suitable habitat is available in the water body to sustain a native and diverse aquatic environment. Impairments to the aquatic life use can result from anthropogenic sources of pollution. Organic enrichment, flow and habitat alteration, sedimentation (habitat destruction), and whole effluent toxicity are potential causes of water body impairment for this use.

The fish consumption use is met when pollutant concentrations are acceptable for edible marketable fish or shellfish or for the use of recreationally caught fish or other aquatic life for human ingestion.

The primary contact recreational use is any activity that involves prolonged contact with the water with a significant risk of ingestion. Activities include swimming, diving, water skiing, and wading, among others. The secondary contact recreational use includes any activity with incidental water contact including boating, fishing, and other activities.

The aesthetic use is supported when water bodies do not contain objectionable deposits, floating debris, scum, or other matter, which produces offensive odors, colors, taste or turbidity or produces noxious aquatic life.

Total Maximum Daily Loads (TMDLs) are the amount of a pollutant allowed to be discharged into a water body per day to assure attainment of the SWQS. The sum total of all pollutant load allocations cannot exceed the total maximum allowable pollutant load calculated for the water body.

Impaired water bodies are those that are not expected to meet the SWQS due to specific pollutants or stressors. However, numerical data is not available for every pollution indicator, so best available guidance in the literature may be applied. Not all water bodies are assessed; many small and/or unnamed water bodies are currently not assessed.



According to the proposed Massachusetts Year 2016 Integrated List of Waters, there are five categories for water quality assessment.

- Category 1 Waters attaining all designated uses
- Category 2 Attaining some uses; other uses not assessed
- Category 3 No uses assessed
- Category 4A TMDL is completed
- Category 4B Impairment controlled by alternative pollution control requirements
- Category 4C Impairment not caused by a pollutant TMDL not required
- Category 5 Waters requiring a TMDL (i.e. the 303(d) List)

Bridgewater has 25 water body segments that receive flow from the MS4 with two (2) designated as a Category 5 Water, one (1) designated as a Category 4A Water, and one (1) designated as a Category 4C Water. The Taunton River Watershed has a watershed-wide TMDL for bacteria. Additionally, all waters within the Taunton River Watershed have a nitrogen impairment. **Table 5-1** summarizes these water bodies and the associated impairments and TMDLs requiring action as described in the Permit and this SWMP based on the proposed Massachusetts Year 2016 Integrated List of Waters.

These impaired water bodies and the MS4 areas tributary to them can be found on the storm sewer system map included as part of the IDDE report, which is located in **SWMP Volume 2**.

Appendix H of the Permit identifies specific requirements for water bodies that are Water Quality Limited in five categories of impairments (Nitrogen, Phosphorus, Bacteria/Pathogens, Chloride and Solids, Metals or Oil and Grease). These requirements apply to water bodies and their tributaries that do not meet applicable water quality standards, including but not limited to waters listed in category 5 and waters without an EPA approved TMDL.

Bridgewater WQLW Impairment(s)

Nitrogen and Phosphorous

Appendix F of the Permit identifies specific requirements for discharges to impaired waters or their tributaries with an approved TMDL.

Bridgewater TMDL(s)

Bacteria and Pathogens, Mercury



5.4 REQUIREMENTS TO ADDRESS IMPAIRMENTS

The requirements specific to impairments and TMDLs of Bridgewater's receiving waters are summarized as follows:

Table 5-1: Town Impaired Water Bodies

NAME	CATEGORY	SEGMENT ID	IMPAIRMENT CAUSE (EPA TMDL No.)
Matfield River	5	MA62-32	Escherichia Coli (40308) Fecal Coliform (40308) Excess Algal Growth Taste and Odor Phosphorous, Total (WQLW) Oxygen, Dissolved Aquatic Macroinvertebrate Bioassessments
Taunton River	5	MA62-01	Escherichia Coli
Taunton River Watershed	-	-	Nitrogen Total (WQLW) Bacteria/Pathogen
Lake Nippenicket	4A	MA62131	Mercury in Fish Tissue (33880) Non-Native Aquatic Plants
Carver Pond	4C	MA62033	Non-Native Aquatic Plants

NOTE: Based on the proposed Massachusetts Year 2016 Integrated List of Waters. Certain Pollutants (in BOLD) result in Total Maximum Daily Load (TMDL) or Water Quality Limited Water Bodies (WQLW) requirements defined in Appendix H & F of the Permit.

Bacteria and Pathogen TMDL Requirements

<u>Applicable Bridgewater Receiving Waters:</u> Matfield River (MA62-32), Taunton River Watershed (watershed-wide TDML), Taunton River (MA62-01)

<u>Requirement:</u> Any catchment area that discharges to a water body impaired for bacteria or pathogens must comply with enhanced BMPs in addition to the requirements to reduce pollutants to the maximum extent practicable outlined in Section 2.3 of the Permit and covered in **Section 7.0** of this report. Required enhancement of BMPs include:

Public Education – Supplement residential program with an annual message encouraging proper management of pet waste, including noting any existing ordinances where appropriate. Distribute education materials to dog owners at the time of licensing. Educational materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacterial or pathogens.

Illicit Discharge – Automatic designation of either "Problem Catchment" or "HIGH Priority" in the implementation of the IDDE program.

<u>Status:</u> The Town has incorporated these enhancements into the BMPs in **Section 7.0** of this report.



Phosphorous WQLW Requirements

Applicable Receiving Waters: Matfield River (MA62-32)

<u>Requirement:</u> Any catchment area that discharges to a water body impaired for phosphorous must comply with enhanced BMPs in addition to the requirements to reduce pollutants to the maximum extent practicable outlined in Section 2.3 of the Permit and covered in **Section 7.0** of this report. Required additional and enhanced BMPs include:

Public education and outreach: Supplement Residential and Business/Commercial/Institution program with annual timed messages on specific topics. Distribute an annual message in the spring (March/April) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorous-free fertilizers. Distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. Distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. Deliver an annual message on each of these topics, unless the Town determines that one or more of these issues is not a significant contributor of phosphorous to discharges from the MS4 and the Town retains documentation of this finding in the SWMP.

Illicit Discharge – Automatic designation of High Priority in the initial outfall ranking of the IDDE program.

Stormwater Management in New Development and Redevelopment: Adoption/amendment of the Town's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorous removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs that infiltrate stormwater where feasible.

Good Housekeeping and Pollution Prevention for Permittee Owned Operations: Establish procedures to properly manage grass cuttings and leaf litter on Town property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

Phosphorous Source Identification Report: Within four years of the Permit effective date the Town shall complete a Phosphorous Source Identification Report. The report shall include the following elements:

- Calculation of total MS4 area draining to the water quality limited water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6;
- 2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s);
- 3. Impervious area and Directly Connected Impervious Area (DCIA) for the target catchment;
- 4. Identification, delineation and prioritization of potential catchments with high phosphorous loading; and
- 5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment, including the removal of impervious area.



The final Phosphorous Source Identification Report shall be submitted to EPA as part of the year 4 annual report.

Potential Structural BMPs: Within five years of the Permit effective date, the Town shall evaluate all Town-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under Permit part 2.3.6.d.ii. or identified in the Phosphorous Source Identification Report that are within the drainage area of the impaired water or its tributaries. The evaluation shall include:

- 1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
- 2. The estimated cost of redevelopment or retrofit BMPs; and
- 3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.

The Town shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report. The Town shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the Permit effective date. The demonstration project shall be installed targeting a catchment with high phosphorous load potential.

The Town shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.

Any structural BMPs installed in the regulated area by the Town or its agents shall be tracked and the Town shall estimate the phosphorous removal by the BMP consistent with Attachment 3 to Appendix F The Town shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorous removed in mass per year by the BMP in each annual report.

Status: The Town has incorporated these enhancements into the BMPs in Section 7.0 of this report.

Nitrogen WQLW Requirements

Applicable Receiving Waters: Taunton River Watershed (watershed-wide WQLW)

<u>Requirement:</u> Any catchment area that discharges to a water body impaired for nitrogen must comply with enhanced BMPs in addition to the requirements to reduce pollutants to the maximum extent practicable outlined in Section 2.3 of the Permit and covered in **Section 7.0** of this report. Required additional and enhanced BMPs include:

Public education and outreach: Supplement Residential and Business/Commercial/Institution program with annual timed messages on specific topics. Distribute an annual message in the spring (April/May) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers. Distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. Distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. Deliver an annual message on each of these topics, unless the Town determines that one or more of these issues is not a significant contributor of nitrogen to discharges from the MS4 and the Town retains documentation of this finding in the SWMP.

Illicit Discharge – Automatic designation of High Priority in the initial outfall ranking of the IDDE program.



Stormwater Management in New Development and Redevelopment: Adoption/amendment of the Town's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs to reduce nitrogen discharges.

Good Housekeeping and Pollution Prevention for Permittee Owned Operations: Establish requirements for use of slow release fertilizers on Town-owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in 2.3.7.1; establish procedures to properly manage grass cuttings and leaf litter on Town property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 - Dec 1; following leaf fall).

Nitrogen Source Identification Report: Within four years of the Permit effective date the Town shall complete a Nitrogen Source Identification Report. The report shall include the following elements:

- 1. Calculation of total MS4 area draining to the water quality limited water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6;
- 2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s);
- 3. Impervious area and Directly Connected Impervious Area (DCIA) for the target catchment;
- 4. Identification, delineation and prioritization of potential catchments with high nitrogen loading; and
- 5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment.

The final Nitrogen Source Identification Report shall be submitted to EPA as part of the year 4 annual report.

Potential Structural BMPs: Within five years of the Permit effective date, the Town shall evaluate all Town-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under Permit part 2.3.6.d.ii. or identified in the Nitrogen Source Identification Report that are within the drainage area of the impaired water or its tributaries. The evaluation shall include:

- 1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
- 2. The estimated cost of redevelopment or retrofit BMPs; and
- 3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.

The Town shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report. The Town shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the Permit effective date. The demonstration project shall be installed targeting a catchment with high nitrogen load potential.

The Town shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.



Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H of the Permit already existing or installed in the regulated area by the Town or its agents shall be tracked and the Town shall estimate the nitrogen removal by the BMP consistent with Attachment 1 to Appendix H of the Permit. The Town shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP in each annual report.

Status: The Town has incorporated these enhancements into the BMPs in Section 7.0 of this report.

Mercury TMDL Requirements

Applicable Bridgewater Receiving Waters: Lake Nippenicket (MA62131)

<u>Requirement:</u> No requirements related to this TMDL are imposed on MS4 discharges under this part. The Northeast Regional Mercury TDML does not specify a wasteload allocation or other requirements either individually or categorically for MS4 discharges and specifies that load reductions are to be achieved though reduction in atmospheric deposition sources.

If it is identified that an MS4 discharge is causing or contributing to such impairment to an extent that cannot be explained by atmospheric deposition, the Town shall comply with the requirements outlined in part 2.1.1.d and 2.3.4 of the Permit.

Status: No further action required at this time.

Relief of Requirements to Address Impairments

The permit states that at any time during the permit term the permittee may be relieved of additional requirements in Appendix F and H as follows:

TMDLs (Appendix F):

- a. The permittee is relieved of its additional requirements as of the date when the following conditions are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the pollutant causing the impairment are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL.
- b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F to date to reduce the pollutant load in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs.
 - ii. The permittee shall continue to implement all requirements of Appendix F required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.



Water Quality Limited Waterbodies (Appendix H):

- a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
 - The receiving water and all downstream segments are determined to no longer be impaired due to the named pollutant by MassDEP and EPA concurs with such determination.
 - ii. An EPA approved TMDL for the receiving water or downstream receiving water indicates that no additional stormwater controls for the control of said pollutant are necessary for the permittee's discharge based on wasteload allocations as part of the approved TMDL.
- b. In such a case, the permittee shall document the date of the determination provided for in the paragraph above or the approved TMDL date in its SWMP and is relieved of any additional requirements of Appendix H as of the applicable date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities that have been implemented in accordance with the requirements of Appendix H. as of the applicable date to reduce the pollutant in its discharges, including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix H required to be done prior to the date of determination or the date of the approved TMDL, including ongoing implementation of identified nonstructural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.



6.0 DISCHARGES

EPA has written the Permit to meet Massachusetts state water quality standards. Antidegradation provisions at 314 CMR § 4.04 are part of the current EPA-approved water quality standards for Massachusetts. As such, the Permit requires compliance with 314 CMR § 4.04 and increased discharges from MS4s remain subject to 314 CMR § 4.04.

6.1 Increased Discharges Authorization

The Massachusetts Stormwater Management regulations, current site development review practices and new stormwater regulations drafted by the Town prohibit increased discharges. They all require that any new development or re-development (including new impervious area) is subject to the Post-Construction Stormwater Management requirements, which include infiltration standards that are intended to mimic pre-development conditions. New impervious areas require the implementation of best management practices (BMPs). In a case where these conditions cannot be met, authorization for an increased discharge may be required.

Several water bodies in Town are identified as impaired waters on the proposed Massachusetts Year 2016 Integrated List of Waters. As discussed in **Section 5.4**, this SWMP incorporates the required actions outlined in Appendix F and H of the Permit aimed at decreasing pollutants causing impairments to those water bodies. These actions combined with the implementation of post construction stormwater requirements will decrease the overall pollutant loading to all receiving waters over time. Town compliance with these requirements of the Permit, including all reporting and documentation, demonstrates no net increase in pollutant loading from the MS4.

6.2 DISCHARGES TO TMDL OR WATER QUALITY LIMITED WATERS

As previously noted, portions of the MS4 discharges in Town are to either TMDL or Water Quality Limited Waters. **Table 5-1** highlights the TMDL(s) and/or Water Quality Limitations for each of Bridgewater's listed water bodies. The MS4 area tributary to each water body is subject to the TMDL and/or Water Quality Limited Waters requirements (described in **Section 5.4**) based that water body's stormwater related impairments. A map of the MS4 discharge locations (i.e. outfalls and interconnections), the MS4 area tributary to each receiving water and the TMDL and/or Water Quality Limitation triggering additional requirements to reduce pollutant loading and protect water quality can be found in the IDDE report, which is located in **SWMP Volume 2**.



7.0 IMPLEMENTATION OF MINIMUM CONTROL MEASURES

The 2016 MS4 Permit states that the permittee shall continue to implement their 2003 MS4 SWMP while updating it pursuant to meet the requirements of the new permit. Upon adoption, this new SWMP supersedes the 2003 SWMP and all related deadlines and expectations. As indicated in the 2003 and 2016 MS4 permits, the permittee shall reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) using these 6 minimum control measures (MCM):

- 1. Public Education and Outreach;
- 2. Public Involvement and Participation;
- 3. Illicit Discharge Detection and Elimination (IDDE) Program;
- 4. Construction Site Stormwater Runoff Control;
- 5. Stormwater Management in New Development and Redevelopment (Post-Construction Stormwater Management); and
- 6. Good House Keeping and Pollution Prevention for Permittee Owned Operations.

7.1 Public Education and Outreach (MCM 1)

The Community & Economic Development Department is responsible for ensuring the implementation of the public education and outreach program including measurable goals and reporting. Assisting departments for particular BMPs are listed below.

Public education and outreach materials can be found on the Town's stormwater webpage (https://www.bridgewaterma.org/1404/Stormwater-Management) and at the Bridgewater Municipal Office Building. Web Links and locations for specific BMPs are listed below.

Reporting forms and logs to document public education and outreach efforts can be found in **Appendix B**. Requirements and documentation measures for specific BMPs are identified below and annual reporting requirements are described in **Section 10**.

Objective and Requirements

The main objective of this control measure is to implement an education program that includes education goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public education program is to increase knowledge and change behavior of the public so that pollutants in stormwater are reduced.

The minimum requirements specified in section 2.3.2 of the Permit are as follows:

- 1. Distribute at a minimum two (2) educational messages over the five (5) year Permit term to each of the following audiences: (1) residents, (2) businesses, institutions (churches, hospitals), and commercial facilities, (3) developers (construction), and (4) industrial facilities. Message shall focus on topics most relevant to the community.
- 2. Document in each annual report the message for each audience, method of distribution, the measures/methods used to assess the effectiveness of the messages, and the method/measures used to assess the overall effectiveness of the education program.
- 3. Comply with enhanced requirements related to WQLW Impairment Requirements for nitrogen and phosphorous which includes:
 - Supplement Residential and Business/Commercial/Institution program with annual timed messages on specific topics.



In Bridgewater, this includes all receiving waters as all water bodies in Bridgewater are located within the Taunton River Watershed which has a designated watershed-wide nitrogen impairment. Additionally, the Matfield River (MA 62-32) has a phosphorous impairment.

- 4. Comply with enhanced requirements related to approved TMDL for bacteria and pathogens which include:
 - Supplementing residential education program with an annual message encouraging proper management of pet waste.
 - Distributing education materials to dog owners at the time of licensing.
 - Providing information to owners of septic systems about proper maintenance.

In Bridgewater, this includes all receiving waters as all water bodies in Bridgewater are located within the Taunton River Watershed which has a designated watershed-wide TMDL for bacteria and pathogens. Additionally, the Matfield River (MA 62-32) has a TMDL for both Escherichia Coli and Fecal Coliform.

Best Management Practices and Measurable Goals

BMP-1.1. Educate Residents I

Distribute first education message targeted to residents within the Town's MS4 area.

Media/Location:	Mailing, website, event, phone contact, site visit, and/or other means.			
Responsible Party:	Community & Economic Development Department			
Measureable Goal(s):	 Distribute message to all residents within the Town's MS4 area. Record number of hard copies distributed, locations posted, attendance, webpage hits, etc. as applicable. Complete within 2 years of effective date of Permit. 			

BMP-1.2. Educate Businesses, Institutions, and Commercial Facilities I

Distribute first education message targeted to business, institution, and commercial facility property owners within the Town's MS4 area.

Media/Location:	Mailing, website, event, phone contact, site visit, and/o other means.			
Responsible Party:	Community & Economic Development Department			
Measureable Goal(s):	 Distribute message to all business, institution, and commercial facility property owners within the Town's MS4 area. Record number of hard copies distributed, locations posted, attendance, webpage hits, etc. as applicable. Complete within 2 years of effective date of Permit. 			



BMP-1.3. Educate Developers and Contractors I

Distribute first education message targeted to developers and contractors within the Town's MS4 area.

Media/Location:	Mailing, website, event, phone contact, site visit, and/o other means.			
Responsible Party:	Community & Economic Development Department			
Measureable Goal(s):	 Distribute message to all developers and contractors with active projects within the Town's MS4 area. Record number of hard copies distributed, locations posted, attendance, webpage hits, etc. as applicable. Complete within 3 years of effective date of Permit. 			

BMP-1.4. Educate Industrial Facility Owners I

Distribute first education message targeted to industrial property owners within the Town's MS4 area.

Media/Location:	Mailing, website, event, phone contact, site visit, and/or other means.			
Responsible Party:	Community & Economic Development Department			
Measureable Goal(s):	 Distribute message to all industrial property owners within the Town's MS4 area. Record number of hard copies distributed, locations posted, attendance, webpage hits, etc. as applicable. Complete within 3 years of effective date of Permit. 			

BMP-1.5. Educate Residents II

Distribute second education message targeted to residents within the Town's MS4 area.

Media/Location:	Mailing, website, event, phone contact, site visit, and/or other means.
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Distribute message to all residents within the Town's MS4 area. Record number of hard copies distributed, locations posted, attendance, webpage hits, etc. as applicable. Complete within 4 years of effective date of Permit.



BMP-1.6. Educate Businesses, Institutions, and Commercial Facilities II

Distribute second education message targeted to business, institution, and commercial facility property owners within the Town's MS4 area.

Media/Location:	Mailing, website, event, phone contact, site visit, and/or other means.
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Distribute message to all business, institution, and commercial facility property owners within the Town's MS4 area. Record number of hard copies distributed, locations posted, attendance, webpage hits, etc. as applicable. Complete within 4 years of effective date of Permit.

BMP-1.7. Educate Developers and Contractors II

Distribute second education message targeted to developers and contractors within the Town's MS4 area.

Media/Location:	Mailing, website, event, phone contact, site visit, and/or other means.
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Distribute message to all developers and contractors with active projects within the Town's MS4 area. Record number of hard copies distributed, locations posted, attendance, webpage hits, etc. as applicable. Complete within 5 years of effective date of Permit

BMP-1.8. Educate Industrial Facility Owners II

Distribute second education message targeted to industrial property owners within the Town's MS4 area.

Media/Location:	Mailing, website, event, phone contact, site visit, and/or other means.
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Distribute message to all industrial property owners within the Town's MS4 area. Record number of hard copies distributed, locations posted, attendance, webpage hits, etc. as applicable. Complete within 5 years of effective date of Permit.



Appendix F of the Permit requires implementation of the following BMPs due to bacteria impairments:

BMP-1.9. Educate Residents Annually on Proper Management of Pet Waste with Dog License Applications

Distribute annual education message targeted to pet owners in watershed areas with bacteria/pathogens TMDL or impairments.

Media/Location:	Brochures or pamphlets distributed with dog license
Responsible Party:	Town Clerk
Measureable Goal(s):	 Distribute message to all residents when they (re)apply for a dog license. Record number of hard copies distributed and locations posted.

BMP-1.10. Educate Residents Annually on Proper Management of Septic Systems

Distribute annual education message targeted to septic system owners in watershed areas with bacteria/pathogens TMDL or impairments.

Media/Location:	Brochures or pamphlets by mail and posted to website
Responsible Party:	Health Department
Measureable Goal(s):	 Distribute message to all residents who have septic systems. Record number of hard copies distributed and locations posted.

Appendix H of the Permit requires implementation of the following BMPs due to a nitrogen, phosphorous or bacteria/pathogens TMDL or impairment:

BMP-1.11. Educate Residents, Businesses, Institutions, and Commercial Audiences Annually on Proper Lawn Care

Distribute annual spring education message regarding proper use and disposal of lawn clippings and proper use of slow-release fertilizers targeted to Residents, Businesses, Institutions, and Commercial Facilities in watershed areas with a nitrogen or phosphorous TMDL or impairment.

Media/Location:	Brochures or pamphlets by mail and posted to website
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Distribute message to all residents in watershed areas with a nitrogen and/or phosphorous TMDL or impairment in the spring (April/May – nitrogen or March/April - phosphorous). Record number of hard copies distributed and locations posted.



BMP-1.12. Educate Residents, Businesses, Institutions, and Commercial Audiences Annually on Proper Management of Pet Waste

Distribute annual summer education message regarding proper management of pet waste with regulation cited targeted to Residents, Businesses, Institutions, and Commercial Facilities in watershed areas with a bacteria/pathogens TMDL or impairment.

Media/Location:	Brochures or pamphlets posted to website
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Distribute message in watershed areas with a bacteria/pathogens TMDL or impairment in the summer (June/July). Record locations posted and number of hits on website.

BMP-1.13. Educate Residents, Businesses, Institutions, and Commercial Audiences Annually on Proper Disposal of Leaf Litter

Distribute annual fall education message targeted to Residents, Businesses, Institutions, and Commercial Facilities in watershed areas with a nitrogen or phosphorous TMDL or impairment.

Media/Location:	Brochures or pamphlets by mail and posted to website
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Distribute message in watershed areas with a nitrogen and/or phosphorous TMDL or impairment in the Fall (Aug/Sept/Oct). Record number of hard copies distributed and locations posted.

7.2 Public Involvement and Participation (MCM 2)

The Community & Economic Development Department is responsible for ensuring the implementation of proposed BMPs including measurable goals and reporting. Assisting departments for particular BMPs are listed below.

Reporting forms and logs to document public involvement and participation efforts can be found in **Appendix B**. Web Links, posting locations, requirements and documentation measures for specific BMPs are identified below and annual reporting requirements are described in **Section 10**.

Objective and Requirements

The main objective of this control measure is for the Town to provide opportunities to engage the public to participate in the review and implementation of the Town's Stormwater Management Program (SWMP).



The minimum requirements specified in section 2.3.3 of the Permit are as follows:

- 1. Public involvement activities shall comply with state notice requirements (MGL Chapter 30A, Section 18-25 effective 7/10/2010). The SWMP and all annual reports shall be available to the public.
- 2. Annually provide the public an opportunity to participate in the review and implementation of the SWMP. Public participation opportunities may include, but are not limited to, websites; hotlines; clean-up teams; monitoring teams; or an advisory committee.
- 3. Report on the activities undertaken to provide public participation opportunities including compliance with state public notice requirements referenced above.

Best Management Practices and Measurable Goals

BMP-2.1. Public Review of Stormwater Management Program

Make SWMP available to review by Town residents.

Media/Location:	Materials can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management.	
Responsible Party:	Community & Economic Development Department	
Measureable Goal(s):	 Provide opportunity for residents to view the SWMP online and provide public access to the printed document. Record web page hits and requests to view printed document. Update posted plan annually. 	

BMP-2.2. Public Participation and Comment of Stormwater Management Program

Record and review comments received by residents upon review of SWMP.

Media/Location:	Materials can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Keep a log of comments for review and consideration when annually updating the SWMP. Include comment log in the annual report.



BMP-2.3. Public Participation Activities

Public participation activities may include meetings, cleanup teams, monitoring teams, hazmat drop off events, watershed organization events, hotlines, or an advisory committee.

Media/Location:	Public participation activities will be advertised on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Advertise at least one activity per year. Record method of advertising. Record the number of attendees and/or quantity of cleanup achieved. Record compliance with state public notice requirements where applicable.

7.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PROGRAM (MCM 3)

The Department of Public Works is responsible for ensuring the implementation of proposed BMPs including measurable goals and reporting. Assisting departments for particular BMPs are listed below.

Reporting forms and logs to document IDDE efforts can be found in **Appendix B** and are expanded on in **SWMP Volume 2**. Requirements and documentation measures for specific BMPs are identified below and annual reporting requirements are described in **Section 10**.

Objective and Requirements

The main objective of this control measure is to systematically find and eliminate illicit sources of nonstormwater discharge to its municipal storm sewer system and implement procedures to prevent such discharges.

The minimum requirements specified in section 2.3.4 of the Permit are as follows:

- 1. Develop and implement a regulatory mechanism to provide adequate legal authority to the Town to implement and enforce the Illicit Discharge Detection and Elimination (IDDE) Program.
- 2. Develop an SSO inventory covering the previous five (5) years within one (1) year of the effective date of the Permit.
- 3. Update storm sewer system map for Phase I mapping requirements within two (2) years of the effective date of the Permit, annually update the mapping as new information is discovered, and develop a system wide storm sewer system map for Phase II mapping requirements within ten (10) years of Permit effective date.
- 4. Develop an IDDE Program within one (1) year of the effective date of the Permit.
- 5. Develop an initial inventory and a priority ranking of outfalls/interconnections within one (1) year of the effective date of the Permit and update annually.
- 6. Develop a catchment investigation program within 18 months of the effective date of the Permit and implement according to the IDDE program.
- 7. Record and report in each annual report about the IDDE program progress and overall effectiveness.
- 8. Ongoing screening plan of outfalls once every five years.



- 9. Provide training to employees involved in the IDDE program annually. The training frequency and type shall be reported in the annual report.
- 10. Comply with enhanced requirements as specified in the appendix F and H of the Permit regarding Impaired Waters and TMDL requirements as follows:
 - Automatic designation of either "Problem Catchment" or "High Priority" in the
 implementation of the IDDE program for catchments discharging to waters where illicit
 discharges have potential to contain pollutant identified as the cause of the water
 quality impairment. In Bridgewater, this includes all receiving waters as the Taunton
 River Watershed has a designated watershed-wide nitrogen impairment. Additionally,
 Matfield River (MA62-32) is impaired for phosphorous and bacteria/ pathogens.
- 11. Comply with additional requirements specified in Section 3.0 of the Permit for discharges to surface drinking water supplies and their tributaries including the following:
 - Automatic designation of "High Priority" in the implementation of the IDDE program for catchments discharging to public surface drinking water supply sources and their tributaries.

Best Management Practices and Measurable Goals

BMP-3.1. IDDE Legal Authority

The IDDE Legal Authority is identified as the Department of Public Works, its employee or designated agents.

Media/Location:	Materials can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Department of Public Works
Measureable Goal(s):	Regulation Adopted (Date adopted).

BMP-3.2. Sanitary Sewer Overflow (SSO) Inventory

Develop and maintain a SSO inventory that covers the previous five years in accordance of Permit conditions.

Media/Location:	The inventory is included as Appendix G of the SWMP Volume 2: IDDE Plan. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Town Engineer
Measureable Goal(s):	 Inventory completed (by year 1). In the event of an overflow or bypass, provide notification with 24 hrs to MassDEP & EPA followed by a written report within 5 calendar days. Update annually.



BMP-3.3. Storm Sewer System Map

Update storm sewer system map in accordance with Permit mapping requirements.

Media/Location:	The map is included as Appendix A of the SWMP Volume 2: IDDE Plan. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Update map within 2 years of effective date of Permit for Phase 1 mapping. Update annually as new/corrected information is discovered. Complete full system map (Phase 2) within 10 years of effective date of Permit

BMP-3.4. Written IDDE program

Develop/update written IDDE program.

Media/Location:	SWMP Volume 2: IDDE Plan. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ Stormwater-Management .
Responsible Party:	Town Engineer
Measureable Goal(s):	Written program completed (by year 1).Update as required.

BMP-3.5. Implement IDDE Program

Implement catchment investigations according to IDDE program and Permit conditions and based on the outfall/interconnection inventory, initial ranking and dry weather outfall and interconnection screening and sampling results.

Media/Location:	SWMP Volume 2: IDDE Plan. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ /Stormwater-Management.
Responsible Party:	Town Engineer
Measureable Goal(s):	 Conduct 100% of catchment investigations for "Problem" outfalls within 7 years of effective date of Permit. Conduct 100% of catchment investigations for all outfalls within 10 years of effective date of Permit. Report results and progress in annual report.



BMP-3.6. Employee Training

Provide annual training on IDDE implementation in accordance with IDDE program.

Media/Location:	SWMP Volume 2: IDDE Plan. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ /Stormwater-Management.
Responsible Party:	Town Engineer
Measureable Goal(s):	 Conduct annual IDDE training. Provide record of training and attendance in annual report.

BMP-3.7. Dry Weather Screening and Sampling

Conduct dry outfall screening and sampling of outfalls/interconnections in MS4 area in accordance IDDE program.

Media/Location:	SWMP Volume 2: IDDE Plan. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404//stormwater-Management .
Responsible Party:	Town Engineer
Measureable Goal(s):	 Complete dry outfall screening and sampling within 3 years of effective date of Permit. Report results and progress in annual report.

BMP-3.8. Wet Weather Sampling of Outfalls

Conduct wet weather outfall sampling in accordance with IDDE program. This sampling can be done upon completion of any dry weather investigation but must be completed before the catchment investigation is marked as complete.

Media/Location:	SWMP Volume 2: IDDE Plan. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ /Stormwater-Management.
Responsible Party:	Town Engineer
Measureable Goal(s):	 Complete wet weather outfall sampling of "Problem" outfalls within 7 years of effective date of Permit. Complete wet weather outfall sampling of all outfalls within 10 years of effective date of Permit. Report results and progress in annual report.



BMP-3.9. Ongoing Screening

Conduct ongoing dry weather and wet weather screening and sampling (as necessary) of outfalls in accordance with IDDE program.

Media/Location:	SWMP Volume 2: IDDE Plan. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ /Stormwater-Management.
Responsible Party:	Town Engineer
Measureable Goal(s):	 Complete ongoing outfall screening within 5 years of completing catchment investigations. Report results and progress in annual report.

7.4 Construction Site Stormwater Runoff Control (MCM 4)

The Community & Economic Development Department and the Town Engineer are responsible for ensuring the implementation of proposed BMPs and measurable goals. Assisting departments for particular BMPs are listed below.

Regulations, requirements and guidance on construction site stormwater runoff control can be found on the Town's stormwater webpage (https://www.bridgewaterma.org/1404/Stormwater-Management.) and at the Bridgewater Municipal Office Building. Web Links and locations for specific BMPs are listed below.

Reporting forms and logs to document these efforts can be found in **Appendix B**. Reporting measures for specific BMPs are identified below and reporting requirements are described in **Section 10**.

Objective and Requirements

The objective of this construction stormwater runoff control program is to minimize or eliminate erosion and maintain sediments on site so that it is not transported in stormwater and allowed to discharge to a water of the U.S through the Town's MS4.

The minimum Permit requirements in accordance to MS4-2016 section 2.3.5 are as follow:

- Implement and enforce a program to reduce pollutants in stormwater runoff discharge to the MS4 from all construction activities that result in land disturbance greater than or equal to one acre within regulated area.
- 2. Develop and implement a construction site runoff control program with written procedures and a regulatory mechanism for site plan review and enforcement within one (1) year from effective date of the Permit. Program must include the following elements for sediment and erosion control:
 - a. Regulatory mechanism that requires the use of sediment and erosion control practices at construction sites including controls for other wastes on construction sites;
 - b. Written procedures for site inspection and enforcement;
 - c. Sediment and erosion control requirements for construction site operators performing land disturbance activities;
 - d. Requirements to control waste from construction sites; and
 - e. Written procedures for site plan review and inspection and enforcement.



- 3. Comply with additional requirements for discharges to surface drinking water supplies and their tributaries include the following:
 - Pretreatment and spill control measures shall be provided to the extent feasible to stormwater discharges to public drinking water supply sources or their tributaries.
 - Direct discharges to Class A waters should be avoided to the extent feasible.

Best Management Practices and Measurable Goals

BMP-4.1. Sediment and Erosion Control Regulation

A bylaw/regulations is necessary to meet Permit requirements for sediment and erosion control practices.

Media/Location:	Town Ordinance and Stormwater Regulations can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Regulation Adopted (by July 1, 2019). Implement for 100% of applicable projects.

BMP-4.2. Site Inspections and Enforcement of Erosion and Sediment Control Measures.

Provide/update written requirements for site inspections and enforcement procedures.

Media/Location:	SWMP Volume 1: Appendix B. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Written procedures completed (by year 1). Implement for 100% of applicable projects. Conduct construction site inspections consistent with the written procedures. Keep records of inspections.

BMP-4.3. Site Plan Review

Provide/update written procedures for site plan review and begin implementation.

Media/Location:	SWMP Volume 1: Appendix B. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Written procedures completed (by year 1). Implement for 100% of applicable projects. Keep records of projects submitted for site plan review.



BMP-4.4. Construction Site Operators Erosion and Sediment Control Program

Provide/update written requirements for construction operators to implement a sediment and erosion control program.

Media/Location:	SWMP Volume 1: Appendix B. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Written procedures completed (by year 1). Implement for 100% of applicable projects. During construction site inspections review for erosion controls and make note of compliance status. Keep records of inspections.

BMP-4.5. Construction Waste Control

Adopt requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes.

Media/Location:	SWMP Volume 1: Appendix B. This can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Written procedures completed (by year 1). Implement for 100% of applicable projects. During construction site inspections review for waste control and make note of compliance status. Keep records of inspections.

7.5 STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT (POST CONSTRUCTION STORMWATER MANAGEMENT) (MCM 5)

The Community & Economic Development Department and the Town Engineer are responsible for ensuring the implementation of proposed BMPs and measurable goals. Assisting departments for particular BMPs are listed below.

Regulations, requirements and guidance on post construction stormwater management can be found on the Town's stormwater webpage (https://www.bridgewaterma.org/1404/Stormwater-Management.) and at the Bridgewater Municipal Office Building. Web Links and locations for specific BMPs are listed below.

Reporting forms and logs to document these efforts can be found in **Appendix B**. Reporting measures for specific BMPs are identified below and reporting requirements are described in **Section 10**.



Objective and Requirements

The objective of an effective post construction stormwater management program 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.

The minimum Permit requirements in accordance to MS4-2016 section 2.3.6 are as follow:

- 1. Develop, implement, and enforce a program to address post-construction stormwater runoff from all new development and redevelopment sites that disturb one or more acres and discharge into the permittees MS4 at a minimum.
 - Update Permit requirement and regulations to require for development projects the use of LID techniques to the maximum extent feasible
 - Develop/update Permit requirements and stormwater regulations to meet new development and redevelopment design requirements of Permit
 - Update Permit requirement and regulations to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP
- 2. Develop a report assessing current street design and parking lot guidelines and other local requirements that affect the creation of impervious cover within four (4) years from effective date of the Permit.
- 3. Develop a report assessing existing local regulation to determine if green infrastructures are allowable when appropriate site conditions exist. This report shall be completed within four (4) years from the effective date of the Permit.
- 4. Identify within four (4) years from the effective date of the Permit a minimum of 5 permitee-owned properties that could potentially be modify or retrofitted with BMPs.
- 5. Comply with enhanced requirements related to WQLW Impairment Requirements for Nitrogen which includes:
 - Adopt/amend the Town's ordinance or other regulatory mechanism to include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal
 - Include consideration of BMPs to reduce nitrogen discharges retrofit inventory and priority ranking.

In Bridgewater, this includes all receiving waters.

- 6. Comply with enhanced requirements related to WQLW Impairment Requirements for Phosphorous which includes:
 - Adopt/amend the Town's ordinance or other regulatory mechanism to include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorous removal.
 - Include consideration of BMPs to reduce phosphorous discharges retrofit inventory and priority ranking.

In Bridgewater, this includes the Matfield River (MA62-32).



Best Management Practices and Measurable Goals

BMP-5.1. Low Impact Development (LID) Techniques

Update Permit requirement and regulations to require for development projects the use of LID techniques to the maximum extent feasible.

Media/Location:	Stormwater Regulations can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Complete within 2 years of the effective date of Permit. Implement for 100% of applicable projects. Keep records of development projects approved with LIDs.

BMP-5.2. New Development and Redevelopment (Post-Construction) Design Regulations

Develop/update Permit requirements and stormwater regulations to meet new development and redevelopment design requirements of Permit.

Media/Location:	Stormwater Regulations can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Complete within 2 years of the effective date of Permit. Implement for 100% of applicable projects. Keep records of development projects approved to meet regulations.

BMP-5.3. As-Built Plans

Update Permit requirement and regulations to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP.

Media/Location:	Stormwater Regulations can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Complete within 2 years of the effective date of Permit. Implement for 100% of applicable projects. Keep records of projects requiring and fulfilling as-built and O&M requirements.



BMP-5.4. Street Design and Parking Lot Guidelines Report

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.

Media/Location:	Stormwater Regulations can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Complete within 4 year of the effective date of Permit. Implement recommendations of the report. Report progress of implementation annually.

BMP-5.5. Green Infrastructure Report

Develop a report assessing local regulations to determine feasibility of allowing green roofs, raingardens, water harvesting and other similar practices.

Media/Location:	Stormwater Regulations can be found at the Bridgewater Municipal Office Building or on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Complete within 4 year of the effective date of Permit. Implement recommendations of the report. Report progress of implementation annually.

BMP-5.6. List of 5 properties to Provide (effective) Reduction of Impervious area

Identify and maintain a list of at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually

Measureable Goal: Complete within 4 years of effective date of Permit and report annually on retrofitted properties.

Media/Location:	Bridgewater Municipal Office Building
Responsible Party:	Town Engineer and / or Department of Public Works
Measureable Goal(s):	 Complete list within 4 year of the effective date of Permit. Update list as needed and report annually on retrofitted properties.



7.6 GOOD HOUSEKEEPING AND POLLUTION PREVENTION FOR PERMITTEE OWNED OPERATIONS (MCM 6)

The Department of Public Works is responsible for ensuring the implementation of proposed BMPs and measurable goals. Assisting departments for particular BMPs are listed below.

Reporting forms and logs to document these efforts can be found in **Appendix B** and are to be expanded upon in **SWMP Volume 3**. Reporting measures for specific BMPs are identified below and reporting requirements are described in **Section 10**.

Objective and Requirements

The Town will implement an operations and maintenance program for permittee-owned operations that has a goal of preventing or reducing pollutant runoff and protecting water quality from all Town-owned operations.

The minimum Permit requirements in accordance to MS4-2016 section 2.3.7 are as follow:

- 1. Develop an Operations and Maintenance (O&M) Program for Town-owned facilities within two (2) years from effective date of the Permit.
- 2. Inventory of all Town-owned facilities within two (2) years from the effective date of the Permit.
- 3. Develop an Infrastructure Operations and Maintenance Program within two (2) years from the effective date of the Permit.
- 4. Optimize routine inspections, cleaning and maintenance of catch basins.
- 5. Establish and implement procedures for sweeping and/or cleaning streets and Town-owned parking lots.
- 6. Ensure proper storage of catch basins cleanings and street sweepings prior to disposal or reuse.
- 7. Establish and implement procedures for winter road maintenance.
- 8. Establish and implement inspections and maintenance of stormwater treatment structures.
- 9. Develop Stormwater Pollution Prevention Plans (SWPPPs) for Town-owned or -operated facilities within two (2) years from effective date of the Permit.
- 10. Comply with enhanced requirements related to WQLW Impairment Requirements for nitrogen which includes:
 - Establish requirements for use of slow release fertilizers on Town owned property currently using fertilizer
 - Reduce and manage fertilizer use
 - Establish procedures to properly manage grass cuttings and leaf litter on Town property
 - Prohibit blowing organic waste materials onto adjacent impervious surfaces
 - Increase street sweeping frequency of all municipal owned streets and parking

In Bridgewater, this includes all receiving waters.

- 11. Comply with enhanced requirements related to WQLW Impairment Requirements for phosphorous which includes:
 - Establish requirements for use of slow release fertilizers on Town owned property currently using fertilizer
 - Reduce and manage fertilizer use
 - Establish procedures to properly manage grass cuttings and leaf litter on Town property
 - Prohibit blowing organic waste materials onto adjacent impervious surfaces
 - Increase street sweeping frequency of all municipal owned streets and parking

In Bridgewater, this includes the Matfield River (MA62-32).



Best Management Practices and Measurable Goals

BMP-6.1. Parks and Open Space Operations and Maintenance Procedures

Create written O&M procedures including all requirements of the Permit for Town owned parks and open spaces.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404//Stormwater-Management .
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Complete within 2 years of effective date of Permit. Implement on 100% of Town owned parks and open spaces. Keep records of O&M performed and report annually.

BMP-6.2. Buildings and Facilities Operations and Maintenance Procedures

Create written O&M procedures including all requirements of the Permit for Town owned buildings and facilities.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ https://www.bridgewaterma.org/1404/ https://www.bridgewaterma.org/1404/
Responsible Party:	Town Manager's Office
Measureable Goal(s):	 Complete within 2 years of effective date of Permit. Implement on 100% of Town owned buildings and facilities. Keep records of O&M performed and report annually.

BMP-6.3. Vehicles and Equipment Operations and Maintenance Procedures

Create written O&M procedures including all requirements of the Permit for Town owned vehicles and equipment.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ Stormwater-Management .
Responsible Party:	Town Manager's Office
Measureable Goal(s):	 Complete within 2 years of effective date of Permit. Implement on 100% of Town owned vehicles and equipment. Keep records of O&M performed and report annually.



BMP-6.4. Inventory all Permittee-Owned Parks and Open Spaces, Buildings and Facilities, and Vehicles and Equipment

Create an inventory of Town owned parks and open spaces, buildings and facilities, and vehicles and equipment facilities for implementation of O&M Plan.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ /Stormwater-Management .
Responsible Party:	Community & Economic Development Department
Measureable Goal(s):	 Complete within 2 years of effective date of Permit. Update inventory annually.

BMP-6.5. Municipal Infrastructure Operation and Maintenance Program

Develop and implement program to ensure proper function of the MS4 stormwater infrastructure.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ /Stormwater-Management.
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Complete within 2 years of effective date of Permit. Implement so that 100% of infrastructure is maintained and functioning properly. Keep records of O&M performed and report annually.

BMP-6.6. Catch Basin Cleaning Program

Develop written program for catch basin cleaning with a goal that each catch basin is no more than 50% full at any given time.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ Stormwater-Management .
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Written program complete (by year 1). Clean catch basins on established schedule. Report number of catch basins cleaned and volume of material moved annually.



BMP-6.7. Street Sweeping Program

Develop and implement a street sweeping program so that all streets and municipal parking lots are swept in accordance with Permit conditions.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ https://www.bridgewaterma.org/1404/ https://www.bridgewaterma.org/1404/
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Written program complete (by year 1). Annually sweep all streets and municipal parking lots in accordance with established schedule. Keep records of sweeping performed and report annually.

BMP-6.8. Winter Road Maintenance Program

Develop and implement a program to manage storage and use of road salt.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ /Stormwater-Management.
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Written program complete (by year 1). Implement program as necessary. Evaluate at least one salt/chloride alternative for use in the Town.

BMP-6.9. Stormwater Treatment Structures Inspections and Maintenance Procedures

Develop and implement inspection and maintenance procedures and frequencies for Town-owner stormwater BMPs (excluding catch basins).

Measureable Goals: Complete within 1 year of effective date of Permit. Inspect and maintain 100% of BMPs treatment structures at least annually.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/ /Stormwater-Management.
Responsible Party:	Department of Public Works
Measureable Goal(s):	 Written procedures complete (by year 1). Inspect and maintain 100% of BMPs treatment structures at least annually. Keep records of inspection and maintenance performed and report annually.



BMP-6.10. Stormwater pollution prevention plan (SWPPP)

Develop and implement SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities.

Measureable Goal: Complete and implement within 2 years of effective date of Permit implement SWPPPs for all required facilities.

Media/Location:	SWMP Volume 3: O&M Plan. This will be available at the Bridgewater Municipal Office Building and on the Town's stormwater webpage: https://www.bridgewaterma.org/1404/Stormwater-Management .					
Responsible Party:	Town Engineer					
Measureable Goal(s):	 Develop and implement SWPPPs within 2 years of effective date of Permit. Keep records of inspection and maintenance performed and report as required in the SWPPPs. 					



8.0 Sanitary Sewer Overflows Inventory

The Town has identified and inventoried all known locations where SSOs have discharged to the MS4 within the previous five (5) years. This inventory is provided and maintained as part of SWMP Volume 2: IDDE Plan.



9.0 SURFACE DRINKING WATER SUPPLY SOURCES

Section 3.0 of the Permit addresses requirements for MS4 systems that discharge to public surface drinking water supply sources (Class A and Class B surface waters used for drinking water) or their tributaries. According to 314 CMR 4.00, Massachusetts Surface Water Quality Standards, 4.05: Classes and Criteria and 4.06: Basin Classification and Maps, Bridgewater includes two (2) Class B surface waters (Matfield River and Town River) as shown on the storm sewer system map included as part of the IDDE report, which is located in **SWMP Volume 2**. Bridgewater also includes one (1) Class SB water (Taunton River). These waters, however, are not listed as used for drinking water.

The Town has incorporated these requirements into the BMPs in Section 5.0 of this report.

Additional Requirements

Additional requirements for discharges to surface drinking water supplies and their tributaries include the following:

- 1. Public surface drinking water supply sources and their tributaries should be considered a priority in the implementation of the SWMP;
- 2. Pretreatment and spill control measures shall be provided to the extent feasible to stormwater discharges to public drinking water supply sources or their tributaries; and
- 3. Direct discharges to Class A waters should be avoided to the extent feasible.



10.0 ANNUAL PROGRAM EVALUATION

Program evaluation, record keeping and reporting are required annually to document what the Town has done during the previous reporting period, judge compliance with Permit provisions, and to verify that efforts are resulting in an improvement to the stormwater, and ultimately the receiving water's quality.

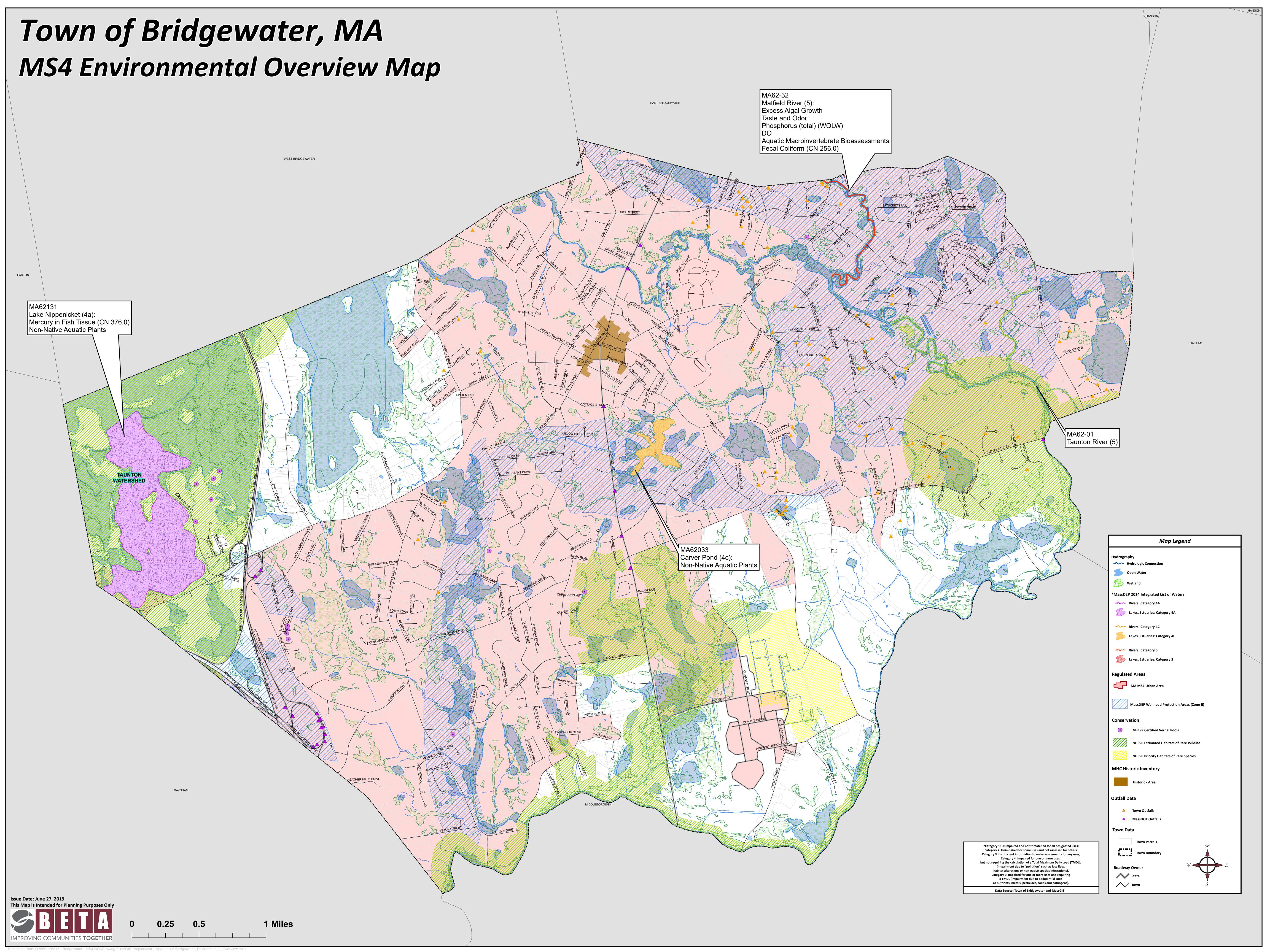
The Town is required to submit annual reports each year of the Permit term. The reporting period is a one year period commencing on the Permit effective date (July 1, 2018) and each anniversary thereafter. The exception is that the first annual report will also include the period from May 1, 2018 to June 30, 2019. Annual reports are due ninety days from the close of the reporting period (September 30). The annual reports will review compliance with the Permit terms and conditions including assessment of selected BMPs, status and progress assessment of planned activities, description of IDDE and O&M program activities, evaluation of construction and post construction stormwater management, and the method/measures used to assess the overall effectiveness of the education program. Description of activities for the next reporting cycle and any changes in identified BMPs or measurable goals will be included. The following data will be collected and reported by the Town using the reporting forms in **Appendix B** to support the ongoing efforts mandated by the Permit:

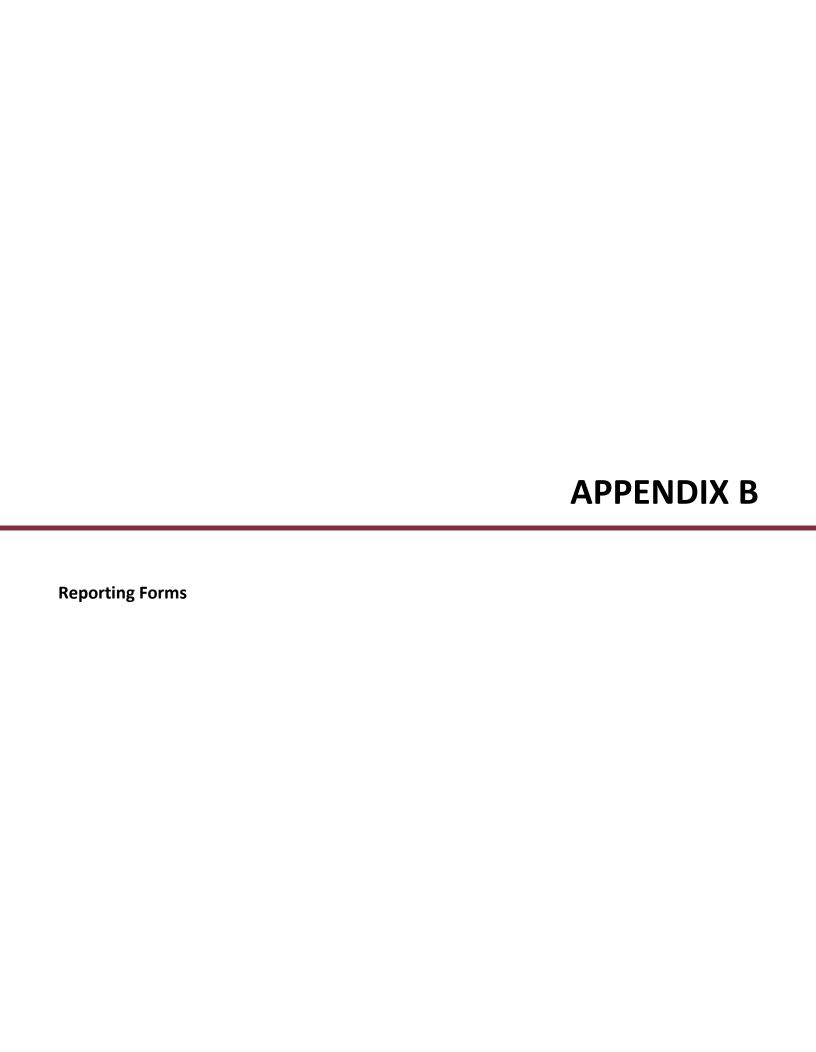
- Public education and outreach materials with dated distribution/attendance list(s)
- Public involvement and participation materials with dated distribution/attendance list(s)
- Data related to Implementation of the IDDE Program including:
 - SSO reporting forms and updated inventory table;
 - Illicit discharge reporting forms and inventory table;
 - Outfall screening and sampling data;
 - Record of mapping updates;
 - Inventory of catchment investigations, data collected and illicit connections removed;
 - Outfall and catchment ranking and assessment updates (Updated Matrix); and
 - IDDE program training attendance log.
- Inventory of construction runoff management including number of projects reviewed, inspected and enforcement actions
- Inventory of site plan review and BMP implementation for new/re-development projects
- O&M inspection and maintenance forms and logs including:
 - Catch basin cleaning and activities;
 - Street sweeping and parking lot sweeping logs;
 - MS4 infrastructure BMP inspection forms and logs;
 - Town facilities inspection forms and logs; and
 - SWPPP inspection reports.

EPA has indicated they are developing an annual report template for MS4s which will populate information from the NOI and be in the form of an electronic fillable .pdf. When it is available, the Town will review the annual report template to determine the best method for data management to be compatible.



	APPENDIX A
 Environmental Overview Map 	
Environmental Overview Map	
Environmental Overview Map	
Environmental Overview Map	





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 - Public Participation Comment Form
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 - IDDE Program Reporting Summary Log
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MCM1: PUBLIC EDUCATION AND OUTREACH LOG

Reporting Period:	_

BMP #	Title/Description	Audience	Responsible Party	Method of Delivery	Date	Record of Measurable Goal*
1.9	Management of Pet Waste: Dog License	Residents	Town Clerk	Distributed with Dog Licenses	Ongoing	
1.10	Septic System Maintenance	Residents	Board of Health	Mail and post to website		
1.11	Lawn Care: grass clippings & fertilizer	Residents & Bus/Inst/Com	Community & Economic Development	Mail and post to website		
1.12	Management of Pet Waste	Residents & Bus/Inst/Com	Community & Economic Development	Post to website		
1.13	Disposal of Leaf Litter	Residents & Bus/Inst/Com	Community & Economic Development	Mail and post to website		

^{*}May include: # distributed, attendees, web page hits, social media likes, etc.

Note: See section 7.1 of SWMP for BMP reporting descriptions and requirements.



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PUBLIC EDUCATION REPORTING FORM

Reporter Name:				Dept.		Date	
Target Audience							
□ Residents □		es, Institutio cial Facilitie	ons (Churches, Hospitals), a	and _	Developers (Construction	n) [Industrial Facilities
Requirement*				·		·	
☐ Standard		Impairment	ts: Spring (Apr/May	/)	☐ Summer (Jun/Jul)	□ Fal	I (Aug/Sep/Oct)
Document Publishin	g/Distribution	on:			Dater		
Developed/Provided	і Ву:	☐ Town Other:	□ NepRWA	□ EPA	\ □ NSP ⊠		
BMP Media/Categor	ry*		Title/Description				
☐ Brochure/Pamph	nlet						
☐ Flyer							
☐ Web Page Article	e/Notice						
☐ Social Media							
☐ Newspaper Artic	les/Press R	Releases					
☐ Local Public Ser	vice Annou	ncements					
☐ School Curricula	r/Programs	1					
□ Contests							
☐ Special Events/Festivals/Fairs							
☐ Displays/Posters/Kiosks							
□ Videos							
☐ Other							

*Please attach a printed copy of the BMP to this form.



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PUBLIC EDUCATION REPORTING FORM (CONT.)

Method of Delivery			
☐ Printed hard copy	Location:	Quantity:	
☐ Mailed hard copy	Recipient Group:	# Recipients:	
□ Email	Recipient Group:	# Recipients:	
☐ Digital: E-News	Recipient Group:	# Recipients:	
☐ Digital: Website	Web Page URL:	# Hits	
☐ Digital: Social Media	Network Site:	User/Profile Name:	
□ Event	Description:	# Attendees	
☐ Other:			
Comments:			



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MCM2: PUBLIC INVOLVEMENT & PARTICIPATION LOG

Reporting	Period:	-	_

RECORD OF SWMP AND ANNUAL REPORT POSTING FOR PUBLIC REVIEW

Date	Responsible Party	Public Notice Provided	Location of Posting	Record of Measurable Goal*

^{*}May include: web page hits, requests to view printed document, # of comments received

RECORD OF PUBLIC COMMENTS

Date	Comment From	Received Via	Comment

RECORD OF PUBLIC PARTICIPATION ACTIVITIES

Date	Responsible Party	Public Notice Provided	Activity	Record of Measurable Goal*

^{*}May include: # of participants, attendees, and/or quantity of cleanup achieved

Note: See section 7.2 of SWMP for BMP reporting descriptions and requirements.



PUBLIC PARTICIPATION OPPORTUNITY REPORTING FORM

							_
Reporter Name:					Date		
Public Participation Minimum Control Mea	Public Participation Minimum Control Measure:						
☐ Notice of Intent	☐ Stormwater Manage	ement Pro	ogram	☐ Public E	ducation	l	
☐ Public Involvement and Participation	□ IDDE			☐ Construction Site Runoff Control			
☐ New Development	☐ Good Housekeeping	g	☐ Other:				
Title of Document:							
Date of Public Participation:							
Type/Location of Public Participation Posting:							
☐ Web Page	☐ Town Office	☐ Town Office ☐		☐ Public Venue			
☐ Mass Media (newspaper, public service announcement, etc.)	De ☐ Other:						



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PUBLIC PARTICIPATION COMMENT FORM

Reporter Name:						Date	
Date of Public Participation							
Date(s) of Comment Period	:						
Title of Document:							
Type/Location of Public F	articipation Pos	ting:					
☐ Web Page		☐ Town Office			☐ Public	c Venue	
☐ Mass Media (newspape announcement, etc.)	r, public service	☐ Other:			I		
Comments Made By:					Date:		
Comments Received via:							
☐ Email	☐ Phone			□ We	eb Page		
☐ Letter/hard copy	☐ Other:						
Comment: Action Taken (if any):							



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Reporting Period:	_	
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EMPLOYEE TRAINING

Date	# of Attendees	Location	Presenter	Topic/Discussion Items

SSO INVENTORY

Report #	Date	Reporter	Location	Status & Comments

ILLICIT DISCHARGE INVENTORY

Report #	Date	Reporter	Location	Status & Comments



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STORM SEWER MAPPING UPDATES

Туре	Date	Updated by	Location	Description

OUTFALL SCREENING AND SAMPLING

Dry/Wet	Date(s)	Inspector	Location(s)	Comments

CATCHMENT INVESTIGATIONS

Category	Date(s)	Inspector	Location	Description/Results

Note: See section 7.3 of SWMP for BMP reporting descriptions and requirements.



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Illicit Discharge Detection and Elimination

Town of Bridgewater

SANITARY SEWER OVERFLOWS (SSOS) INVENTORY

Location (Approximate street	Discharge Statement (Clear statement of whether the	Date & Tir	ne of Event	Estimated Volume (gal)	Description (indicate known or suspected	Mitigation Completed	Mitigation Planned
crossing/address and receiving water, if any)	discharge entered a surface water directly or indirectly)	Start	Stop		cause)	(include dates)	(indicate schedule)
Burrill Avenue	No	12:10PM on 2/24/2004	12:30PM on 2/24/2004	<10,000	Blockage	2/24/2004	
McDonald MH 112A	Yes	09:00AM on 8/8/2006	09:30AM on 8/8/2006	<10,000	Grease	8/8/2006	Private – Roche Bros on Schedule for cleaning
Burrill Avenue	No	09:10PM on 2/11/2013	11:00PM on 2/11/2013	<10,000	Vandalism	2/11/2013	
McDonald's Easement	Yes	10:30PM on 11/20/2015	11:30PM on 11/20/2015	<10,000	Blockage; Took place during Sewer Reline Project	7/23/2015	Check Weekly
McDonald MH 112A	Yes	11:45PM on 7/10/2018	07:450AM on 7/11/2018	<10,000	Blockage	7/11/2018	Private – Roche Bros on Schedule for cleaning

This Inventory includes reported SSO's from 2004 to Present



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ILLICIT DISCHARGE INCIDENT REPORTING FORM

Incident ID			Logged I	Зу:					
Location,							Outfall #		
Nearest Street							Latitude		
Address,:							Longitude		
Reported by:							Date:		
Contact Info							•	•	
Discharge Type:	_	Sewer Overflow Sewer Connection		pill Jumpir	ng		☐ Wash☐ Other		
Incident Description:									
Area Impacted		Stream/River (name) Jpland (name)							
Stormwater System Impacted		Catchbasin (ID #) Orain Manhole (ID #) Surface Basin (ID #)		_			ear)		
Recent Rain:									
Add. Info:									
AREA ACTIVE	s – P	OSSIBLE CAUSE OF ISS	UE						
Dumping:		☐ Yes ☐ No	Oil/Chemicals		□ Yes □	No	Sewerage	☐ Yes	□ No
Septic System:		☐ Yes ☐ No	Wash Water:		□ Yes □	No	Staining	☐ Yes	□No
Other:							Suds:	☐ Yes	□ No
Indicators o	of Po	TENTIAL ISSUES — FUR	RTHER INVESTIGA	TION	RECOMME	ENDED			
Odor:		☐ None ☐ Sewer ☐ Unknown	☐ Eggs ☐ Petrole	eum [□ Laundry		Floatables	☐ Yes	□ No
Oil Sheen:		☐ Yes ☐ No	Cloudy::		□ Yes □	No	Staining	☐ Yes	□ No
Other:							Suds:	☐ Yes	□ No
SUSPECTED V	IOLA ⁻	TOR KNOWN: YES	□ NO						
Name				Ac	ddress				
Description				Lie	cense Plate				



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ILLICIT DISCHARGE INCIDENT INVESTIGATION REPORT FORM (CONT.)

LOCATION MAP/SKETCH/PHOTOS	
RESPONSE ACTION(S)	
Date Investigated:	Investigator:
☐ No Investigation	Reason:
☐ Referred to another Department	Department
☐ Investigated – No Action Required	Action Description
☐ Investigated – Action Required	
☐ Action Completed	Date:
☐ Incident Closed	Date:
Notes:	



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SCREENING AND SAMPLING FORM

Туре:	□ Ou	tfall Interco	nnection \square	☐ Key J	unction		☐ Pipe ☐	DM	Н □ СВ	☐ Othe	r ID:			
Location:						ľ	Material:				Siz	e:		
Inspector:						[Date:				Tir	ne:		
Weather:	□ Su	nny 🗆 Cloudy	⁄ □ Rain □	☐ Snov	V	F	Recent Raint	all:						
ENVIRONMI	ENTAL	Inspection				_								
Area:		Residential	Commerci	al \square	Industri	ial 🗆	Municipal		Open Spa	ce 🗆	Unknow	'n		
Flowing To:		Jpland □ We	tland/Marsh	☐ St	ream/Riv	ver 🗆	Lake/Pond		Open Spac	e 🗆 Ot	ther MS	4 [☐ Outfal	
Submerged:	res □ No	Accessil	ble:	☐ Yes	🗆 No	o Other Info:								
FLOW			1											
Amount:	□ None	e □ Drip □ Tric	ckle Mod	erate [☐ Subst	tantial	Clarity:		□ Non	e 🗆 Clea	ar 🗆 Cl	oudy	√ □ Opa	aque
Color:							Other Info	:						
INDICATORS	OF Po	OTENTIAL ISSU	JES — F UR	THER	NVESTI	IGATIO	N RECOMN	/IENI	DED					
Sediment:		☐ Yes ☐ I	No	Scour	ing:		☐ Yes [□ No)	Staining	g		Yes \square] No
Algae Growt	h:	☐ Yes ☐ I	No	Stress	sed Vege	etation	☐ Yes [□No)	Floatab	les:		Yes □] No
Oil Sheen:		☐ Yes ☐ I	Turbidity:			☐ Yes [□ No)	Other:			Yes \square] No	
Odor:		□ None □	☐ Eggs	□ Fu	☐ Laundry ☐ Unknov									
SAMPLING		1								l				
Sampling Re	quired:	☐ Yes ☐ I	No	Samp	ling Perf	formed:	☐ Yes □	□ N	o S	truct. ID				
RECORDED	Dата						•		1					
Ammonia:			Salinity:				Temp:				pH:			
Chlorine:			Conductivi	ty:			Surfac	tant:				ı		
LAB SAMPLI	ES TAK	ŒN		•			•							
☐ E. coli			☐ Phosph	norus			□ Nit	roge	n)		
☐ Enteroco	ccus		☐ Fecal C	Coliform	1		□ Ме	tals			□ TS	S		
Sent To]	Date:		<u> </u>		Date Red	eived:		<u> </u>		



EMPLOYEE TRAINING RECORD

Topic:	Date:	Duration:	Sheet of
Name	Title	S	ignature



IDDE TRAINING SUMMARY FORM

Training By:		Dept./ Organization	
Date		Time:	
Location:			
Public Participa	ation Minimum Control Measure:		
Subject:			
Audience:			No. Participants
Goals:			
Summary of Training:	•		
Handouts	•		
Comments:	•		



MCM 4: CONSTRUCTION SITE INSPECTION LOG

Reporting Period:	_
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Report #	Date	Inspector	Project/Location	Status & Comments

Note: See section 7.4 of SWMP for BMP reporting descriptions and requirements.



		Cor	NSTRUCTION	SITE IN	ISPECTIO	ON FORM		Repor	rt No
Project:					Date:		Last I	nsp:	
Location:					Arrive:		Leave):	
Operator:					Site Rep:				
Inspector:									
Туре	□ Reg	gular	☐ Pre-Storm		☐ Durin	g Storm	□ Po	st Storm	
Recent Rainfall:					Current Weather	:	·		
Description of Current Site Work:									
Add. Info:									
	Erosi	ON AND SEDIMEN (Inspect for all a						:S □ NC)
Control		Condition		R	equired A	ction	Comple	ted (by)	Date
☐ SWPPP Re	port(s)								
☐ Adjacent St	reet								
☐ Const. Acce	ess Dr.								
☐ Perimeter E	СВ								
☐ Outside EC	В								
□ 0 - di 4 D	\! (-\								

Condition	Required Action	Completed (by)	Date
	Condition	Condition Required Action	



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CONSTRUCTION WASTE CONTROL MAINTENANCE/ACTION REQUIRED: □ YES □ NO

(Inspect for all applicable controls listed)

Control	Condition	Required Action	Completed (by)	Date
☐ Trash/Litter				
☐ Dumpsters				
☐ Fueling Areas				
☐ Sanitary Facilities				
☐ Dewatering				
☐ Haz Mat Storage				

SITE PHOTOS



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MCM 4: CONSTRUCTION SITE ENFORCEMENT ACTION LOG

Year 1 Reporting Period: ______ – ____

1	

Note: See section 7.4 of SWMP for BMP reporting descriptions and requirements.



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MCM 4: SITE PLAN REVIEW LOG

Year 1 Reporting Period: ______ – ____

Project/Location	Filing Date	Reviewer	Comments	Status

Note: See section 7.4 of SWMP for BMP reporting descriptions and requirements.



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MCM 5: POST CONSTRUCTION STORMWATER MANAGEMENT IMPLEMENTATION LOG

Reporting Period:	_	

Project/Location	Filing Date	Reviewer	Requirements Met	Project Status
			☐ LIDs ☐ SW Design Regs	
			☐ As-built ☐ Long-term O&M	
Description/Comments:				
			☐ LIDs ☐ SW Design Regs	
			☐ As-built ☐ Long-term O&M	
Description/Comments:				
			☐ LIDs ☐ SW Design Regs	
			☐ As-built ☐ Long-term O&M	
Description/Comments:				
			☐ LIDs ☐ SW Design Regs	
			☐ As-built ☐ Long-term O&M	
Description/Comments:				
			☐ LIDs ☐ SW Design Regs	
			☐ As-built ☐ Long-term O&M	
Description/Comments:				
			☐ LIDs ☐ SW Design Regs	
			☐ As-built ☐ Long-term O&M	
Description/Comments:				
			☐ LIDs ☐ SW Design Regs	
			☐ As-built ☐ Long-term O&M	
Description/Comments:				

Note: See section 7.4 of SWMP for BMP reporting descriptions and requirements.



MCM 6: Town Facilities Operations and Maintenance Log

Reporting Period:	

PARKS AND OPEN SPACE

Report #	Date	Inspector	Location	Status & Comments

BUILDINGS AND FACILITIES

Report #	Date	Inspector	Location	Status & Comments

VEHICLES AND EQUIPMENT

Report #	Date	Inspector	Location	Status & Comments

Note: See section 7.6 of SWMP for BMP reporting descriptions and requirements.



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MCM 6: MUNICIPAL INFRASTRUCTURE OPERATIONS AND MAINTENANCE LOG

Reporting Period:	 _	

RECORD OF CATCHBASIN CLEANING

Date(s)	Location(s) Responsible Party #		# CBs Cleaned	Volume of Cleaning		

RECORD OF STREET AND PARKING LOT SWEEPING

Date(s)	Location(s)	Responsible Party	Length/# lots	Volume of Cleaning

BMP Inspection and Maintenance

Report #	Date	Inspector	BMP/Location	Status & Comments



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SWPPP Inspection and Maintenance

Report #	Date	Inspector	Location	Status & Comments

Note: See section 7.6 of SWMP for BMP reporting descriptions and requirements.



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CATCHBASIN INSPECTION FORM

Inspector:	Date:	_ Sheet	of	
opeotor:	Duto.		O1 _	

CB ID	<25%	25-50%	>50%		CB ID	<25%	25-50%	>50%	CB ID	<25%	25-50%	>50%
	St/Rd/Ave						St/Rd/	Ave			St/Rd/	'Ave



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STREET/PAVEMENT SWEEPING RECORD FORM

Operator:	Date:	Sheet of
Street/Location	Street/Location	Street/Location



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STORMWATER BMP INSPECTION FORM – SURFACE STRUCTURES

BMP ID:						
Location:			Length	. 61	Depth	±ft.
				±ft.		
Description:			Top Width		Bot Width	±ft.
		1		±ft.		
Type:	☐ Detention	☐ Retention	☐ Infiltration	□ Bio	retention	
	☐ Swale	☐ Infiltration Trench	□ Other			
Inspector:				Date:		
Recent Rainfall:						
Notes:						
		LOCATION MA	P			
	Г					
	l					



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MAINTENANCE	REQUIRED:	\square YES \square NO

(Inspect for all problems listed – provide information for required maintenance only)

Problem	Description	Quantity (±)	Completed (personnel)	Date
☐ Sediment/Debris				
☐ Vegetation				
☐ Erosion				
☐ Water Pond				
☐ Sediment Forebay				
☐ Outlet Struct				
☐ Intlet				
☐ Outlet				
☐ Riprap				
☐ Check Dam				
☐ Access				
☐ Fence				
☐ Other				

ВМР Рнотоѕ



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STORMWATER BMP INSPECTION FORM – SUBSURFACE STRUCTURES

BMP ID:							
Location:				Cover/Grate size	±fi	Cover/Grate shape	±ft.
Description:				Structure Diameter	±fi	t. Depth	±ft.
				Structure Material			•
Type:	□ Oil-	Grit Separator	☐ Prop	rietary Structure	□ Lea	ching CB	
	□ Infil	Itration Chamber/P	ipe	☐ Sand Filter	☐ Oth	□ Other	
Inspector:					Date:		
Recent Rainfall:					<u>.</u>		
Add. Info:							
			LOCATI	ON M AP			



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MAINTENANCE RE	QUIRED: \square YES \square N	0
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(Inspect for all problems listed – provide information for required maintenance only)

Problem	Description	Quantity (±)	Completed (personnel)	Date
☐ Grate/Cover				
☐ Structure				
☐ Hood/Trap/Insert				
☐ Pipes & Joints				
☐ Ladder				
☐ Sediment/Debris				
☐ Vegetation/Roots				
☐ Contaminants/Pollution				
☐ Infiltration Capability				
☐ Discharge				
☐ Fence				
☐ Access				
☐ Other				

BMP PHOTOS



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