

**Municipality/Organization: Tyngsborough**

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**EPA NPDES Permit Number: MAR051229**

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**MaDEP Transmittal Number: X260825**

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**Annual Report Number**

**& Reporting Period: No. 15: April 2017 - April 2018**

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## **NPDES PII Small MS4 General Permit Annual Report**

### **Part I. General Information**

Contact Person: Danielle Mucciarone Title: Director of Conservation

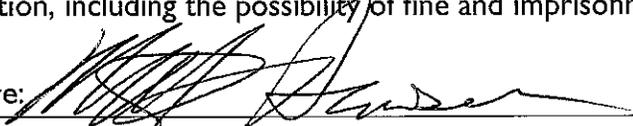
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#### Certification:

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 violations.

Signature: 

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Printed Name: Matt Hanson

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Title: Town Administrator

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Date: May 1, 2018

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## **Part II. Self-Assessment**

The Town of Tyngsborough continues to accomplish the proposed activities set forth in our permit application.

**Regional Collaboration:** We continue to be a member community in the Northern Middlesex Stormwater Collaborative (NMSC), a regional coalition of 13 municipalities working together to meet the terms of the MS4 permit through increased regionalization and efficiencies. In 2017 we also began working with the Massachusetts Municipal Statewide Stormwater Coalition to achieve similar efficiencies on the statewide level. We attended NMSC meetings at NMCOG on 2/8/18, 10/11/17, 9/11/17, 8/14/17 and 4/26/17.

**Funding:** The Conservation Director has advocated strongly for an increase in staff to allow for the town to adequately address the updated MS4 permit that will go into effect on July 2018. As part of this effort DEP's Fed Civian attended a Board of Selectmen meeting in March 2018 in order to educate the Board of Selectmen on the new MS4 permit. The BOS was thankful to have the opportunity to hear about the new permit and why it may warrant an increase in staffing. As part of the proposed budget for FY 2019, the town increased the Conservation Director's hours by 17.5 to a total of 35 hours, and also and increased the Town Planner's hours by 17.5 – also to a total of 35 hours. Both positions will have responsibility to implement the new MS4 permit once it becomes effective. The creation of a full time Conservation Director and a full time Town Planner is a huge step for the town because the town has been without a Town Planner since early 2000 and has been without a full time Conservation Director since around the same timeframe. In addition, the FY 2019 budget includes a stormwater line item for \$500, which was approved by the Board of Selectmen and will be presented to Town meeting on May 15, 2018 for final approval. If approved, this will be the first time that a line item for STORMWATER will appear in the budget. Although small, the thought is that this line item will grow over time and will help track changes in stormwater funding over the years.

**Education and Outreach:** The Conservation Department coordinated an inaugural Rain Barrel program through the Great American Rain Barrel Company in 2017. In the first year Tyngsborough residents purchased 22 barrels through the promotional program. The program is being offered again in 2018, with a pick up scheduled for June 2<sup>nd</sup>, 2018. We kicked-off the rain barrel program on Earth Day of 2018, the by having a booth at the Sherburne Nature Center Earth Day Event. The booth had a rain barrel on display and a signup sheet for those interested in purchasing a barrel.

Additionally, the Conservation Director also conducted Stormwater Education and Outreach using the EnviroScape and the BOH Health Fair in 2017 and conducted a presentation at the Garden Club on April 2, 2018.

**GPS and GIS:** This year the Town of Tyngsborough was awarded a grant through the ESRI company to receive the mapping software called ESRI ArcGIS 10.6 Mapping Program. This is the first time that the Town has an in-house interactive mapping program. Over the course of the year we will be adding mapping layers to ArcMap with the goal of having all of our stormwater infrastructure in there within a year or two. This information will then be able to be updated in-house and will help maintain a more updated mapping system. The Conservation Director also participated in a GPS hardware/software demo at NMCOG.

**BOH:** The Board of Health continues to provide a 24/7 hotline for detection of failed septic systems. The Board of Health held their regularly scheduled Hazardous Waste Day in May 2017.

#### **Culvert Grant Improvements:**

Tyngsborough applied for the Massachusetts Division of Ecological Resources Culvert Replacement Grant opportunity to replace a culvert of Westford Road that is experiencing stormwater problems. In addition, the town received MEMA funding to replace a culvert at Tyngsborough Elementary School that has previously experienced flooding and stormwater problems. That culvert will be replaced by September 2018, and recently received an approved Order of Conditions through the Conservation Department.

**Trainings:** The Conservation Director attended many trainings this year including the training on Phasing of the MS4 Permit Requirements, Preparing a SWPPP for municipal facilities, High Accuracy GPS equipment for Stormwater Asset Data Collection (with GPS to GIS workflow solutions), and Drone Use in DPW and Stormwater Programs on 3/20/18.

The “Planned Activities – Interim Period” column of this report has been completed as in past years; however, in Fiscal Year 2018, the Town will focus on compliance with the new requirements of the 2018 MA Small MS4 General Permit, including assessment of existing stormwater practices, policies, and Town-wide stormwater-related programs, preparation of the Notice of Intent, and implementation of Best Management Practices to address the permit requirements for each Minimum Control Measure. As part of preparation for the new permit, the Northern Middlesex Council of Governments helped us map NHESP endangered species areas within the MS4 permit area, MACRIS historic resources within MS4 area and impaired waterways.

**Part III. Summary of Minimum Control Measures**

**I. Public Education and Outreach**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Interim Period</b>
1	Develop pamphlet on stormwater	Stormwater Committee, Conservation Department	Distribute with water, sewer, tax bills	Completed. Dispersed at Household Hazardous Waste Collection Day, Earth Day Events, Town Meeting, at the Library and at other Town Events.	Continue to disperse at local events.
Revised					
2	Develop stormwater poster design program	Stormwater Committee, Conservation Department	Annual contest by students	The poster process was retired in favor of a photo contest of our run through the Media Department, which was held twice this past year.	Continue poster contest and/or photo contest.
Revised	<i>Stormwater Photo Contest</i>	<i>Media Department.</i>	<i>Annual Contest for all residents</i>		
3	Develop pamphlet on household waste disposal	Board of Health	Distribute with Hazardous Waste collection info	Completed. Distributed at Health Fair and Hazardous Waste Day	Continue distribution of pamphlet at Health Fair and Hazardous Waste Day
Revised					
4	Guide for home, school, restaurant for grease traps.	Board of Health	Distribute at Health Fair, with septic approvals and inspections.	Completed September 30, 2017 from 9:00 am until 2:00 pm.	Continue distributing guide.
Revised					
5	Articles in newsletter	Conservation Director	Quarterly articles on related topics.	No articles were published in the newspaper this year. However, the	Continue with articles on related topics.

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Interim Period</b>
Revised	<i>And on social media</i>			Conservation Director promoted the Stormwater Management Program on the website and social media (Facebook and Twitter).	
6	Health Fair	Board of Health	Annual booth on Storm water	Completed. Stormwater informational booth @ Health Fair on September 30, 2017 from 9:00 am until 2:00 pm.	Continue Stormwater informational booth @ Health Fair.
Revised					
7	Catch basin stencil program	Highway Department	Stencil catch basins over three years.	Completed. All basins were stenciled. Some new basins were installed with the words “Do Not Dump; Drains to Stream” embedded on the catch basin. This is a more permanent option than a stencil, however, it may not be as “eye-catching” as a stencil.	It has come to our attention that some of the stencils have faded off. As such we will continue stenciling program as new basins are installed and older ones are maintained. Will recruit volunteers for this program through local groups such as girl scouts and boy scouts.
Revised					
<b>Ia. Additions</b>					
7A	Storm water video on cable access.	Conservation Department	Play a few times throughout the year	Played during Year 10. Engaged in conversations with Media Director about creating new videos to air on local cable access channel.	Create videos regarding Open Space and the many benefits that Open Space provides to our community including how open space can help with stormwater.

## 2. Public Involvement and Participation

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 13</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities Interim Period</b>
8	Public hearings on SWMP with annual review and comment	Selectmen, Conservation Commission	One public meetings on SWMP.	Completed. A meeting was held with the Board of Selectmen in march 2018 to focus on implementing the SWMP for the NEW permit.	Plan is in place and on website. Continue to focus on planning and implementation for the new permit.
Revised					
9	Create Stormwater Advisory Committee	Selectmen, Stormwater Committee	Meet twice annually for review of program.	Due to funding cutbacks, Committee did not meet. However, the BOS voted to add 17.5 hours to the Conservation Director position in order to ensure that the Stormwater Advisory Committee can get up and running again within the next year.	The increase in hours will be voted on at May 15, 2018.
Revised					
10	Volunteer water quality monitoring program	Conservation Department	Develop program Year 2, annual testing thereafter	A water quality monitoring program has been initiated for Lake Mascuppic, Flint Pond, and Lake Massapoag.	Develop and implement water quality monitoring program for additional water bodies in town such as Lake Althea and the Merrimack River. Form partnership with a local watershed protection group. Continue working with storm water collaborative for regional lab services bid.
Revised	<i>Water quality monitoring program</i>	Local Lakes and Ponds Groups			

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 13</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities Interim Period</b>
11	Volunteer stream clean-up days	Conservation Department	Annual cleanup of selected streams	A clean-up was initiated at Flint Pond this year, which focused on removing water Chestnuts from the Pond. A town-wide trash clean-up also took place during the month of April. Residents could clean up trash and place the trash in yellow bags, that the highway department then picked up. The Highway Department also offered a debris removal program through the month of April. Residents could gather debris from their yard and place it on the side of the road, which would then be picked up by the Highway Department. Scout Troops from across town also volunteer to clean up Open Space throughout town.	Continue to implement clean-up programs across town.
Revised			Stream, ponds, roads and open space		
12	Hazardous Waste Collection Day	Board of Health	Annual collection of hazardous materials	Completed Saturday, May 16th between 9 AM and 1 PM	Annual Hazardous Waste Day
Revised					
<b>2a. Additions</b>					
	None				
Revised					

### 3. Illicit Discharge Detection and Elimination

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 13</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities Interim Period</b>
13	GIS mapping of outfalls and receiving waters	Conservation Department, Highway Department	Portions of Town to be done annually	Received a grant to obtain ESRI ArcMAP 10.6 mapping software.	Add all stormwater infrastructure to our new mapping software.
Revised					
14	Employee training on spill prevention	School, Water, Highway, Sewer Depts.	Annual Training	Completed. Staff attended trainings provided by the Northern Middlesex Stormwater Collaborative (NMSC) on March 2, 2018.	Training will continue on spill prevention through partnership with the NMSC.
Revised					
15	Response plan for hazardous spills	Local Emergency Management Committee	Develop and implement plan for employees and public	A Comprehensive Hazardous Materials Release Plan and Hazard Mitigation Plan for the Town has been completed.	Implementation, as needed.
Revised					
16	Wet & dry weather inspections for priority outfalls	Highway and Conservation Director	Identify likely areas, perform annually	The Highway Department and Conservation Department have continued performing wet and dry inspections as needed.	Continue inspection program.
Revised					
17	Modify bylaws to prohibit dumping into storm systems	Planning Board, Conservation Commission, Selectmen	Develop bylaw for town meeting vote.	New By-law adopted in 2007.	Implement bylaw. See if bylaw needs to be updated.

Revised					
18	Monitor illicit discharges into sewer & storm water systems	Sewer	Identify likely portions of town and monitor annually.	The Sewer Superintendent has identified areas of concern and monitors continually. They have recently purchased a camera to monitor sewer pipes in town to ensure they are not leaking.	Continue to monitor and eliminate illicit connections to the sewer and storm systems.
Revised					
19	Detection of failed septic systems	Board of Health	Provided Hotline for public	Two telephone lines are connected to the Board of Health office 24 hours a day with voice mail.	Continue to provide hotline.
Revised					
<b>3a. Additions</b>					
19A	Pamphlet developed and distributed regarding illicit connections to sewer system	Sewer Commission	Distribute yearly with sewer bills.	Developed and Distributed brochures with bills. Have an I&I memo on the website.	Continue to distribute with sewer bills. Place on website.
Revised					

#### 4. Construction Site Stormwater Runoff Control

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 13</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities Interim Period</b>
20	Enhance zoning for sediment and erosion control	Planning Board, Conservation Commission	Prepare zoning bylaw for town meeting vote	New By-law adopted in 2007. Revisions on flood plain by-laws proposed with FEMA approved and now being implemented.	Continue to implement. Will require stormwater permit holders to submit maintenance records.
Revised					

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 13</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities Interim Period</b>
21	Revise site plan, subdivision, conservation regulations	Planning Board, Conservation Commission	Revise to require stormwater pollution prevention plan.	The Conservation Commission and Planning Board implemented regulations requiring conformance with the MA DEP Stormwater Management Policy Standards and Best Management Practices.	Completed and Continue Implementation.
Revised					
22	Develop regulations for erosion and sedimentation	Conservation, Planning Board, Selectmen,	Regulations including control of waste & portable toilets	The Planning Board and Conservation Commission have developed regulations regarding erosion and sedimentation. Commission implements erosion and sediment controls through local regulations and the public meeting process.	Planning Board to develop regulations regarding control of waste and portable toilets.
Revised					
23	Revise site plan & subdivision regulations	Planning Board, Conservation Commission, Selectmen	Regulations including inspection and enforcement in Bond amount	Completed	Implementation
Revised					
24	Revise site plan & subdivision regulations	Planning Board, Conservation Commission, Selectmen	Regulations including signed affidavit that conditions will be met.	Completed	Implementation
Revised					
<b>4a. Additions</b>					
	None				

### 5. Post-Construction Stormwater Management in New Development and Redevelopment

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 13</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities Interim Period</b>
25	Modify zoning for control of post development runoff	Planning Board, Highway	Prepare zoning bylaw for town meeting vote	New By-law adopted in 2007	Implementation
Revised					
26	Modify site plan & subdivision regulations for maintenance	Planning Board, Conservation Commission, Selectmen	Regulations including long term maintenance of stormwater	Completed	Implementation
Revised					
27	Modify site plan & subdivision regulations for water quality	Planning Board, Conservation Commission, Selectmen	Regulations including minimizing impacts to water quality	Revisions to By-law under consideration	Implementation.
Revised					
<b>5a. Additions</b>					
	None				

## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 13</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities Interim Period</b>
28	Training program for town employees	School, Water, Highway, Sewer, Emergency Management Committee	Annual training for fertilizer, snow, dumping, maintenance and waste	Completed.	Continue annual training Working on specialized training sessions with NMSC for employees and Board members both elected and appointed.
Revised					
29	Street Sweeping	Highway	Annual sweeping of streets	Street sweeping took place in May and June of 2017.	Continue to sweep streets first chance in the spring. Scheduled for May and June 2018.
Revised					
30	Catch basin cleaning	Highway	Annual cleaning of basins	A total of <b>1,463</b> catch basins were cleaned in May and June cleaned.	Continue catch basin cleaning program in the spring of each year.
Revised					
31	Water main flushing with de-chlorination	Water	Annual flushing after street sweeping	Completed after street sweeping completed	Continue to flush water main first chance in spring after street sweeping completed.
Revised					
32	Spill kits at municipal facilities	All Depts.	Annual Training	All municipal buildings have spill kits. Fire, Highway, Board of Health, Conservation, and most of the Police Dept. have had HAZMAT 1 <sup>st</sup> Response Awareness training.	Ongoing
Revised					

33	TV or inspect all sewer lines in 20 years	Sewer, Highway	Develop plan in five years	Sewer Department purchased a camera package to inspect sewer lines. The camera can be utilized, as feasible, to investigate storm drains as well.	Initiate inspection of possible illegal connections and propose dye testing this summer along with using the camera to ensure that all connections are approved and tested for discharge parameters.
Revised					
34	Develop salt alternatives for sensitive areas	Highway	Develop and purchase in two years	Researching alternatives. Uses reduced salt/sand mixture in sensitive areas. Salt not allowed within 100 feet of wetlands per order of conditions that are implemented throughout town.	Will continue to research alternatives.
Revised					
35	Inspect and maintain salt shed	Highway	Annual inspection	Deicing materials storage facility continually monitor with close scrutiny at the ends and beginning of each season	Continued monitoring
Revised					
<b>6a. Additions</b>					
	None				

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

Not Applicable -There are no final TMDLs at this time

**7a.** No additions at this time.

**7b. WLA Assessment**

Not Applicable -There are no final TMDLs at this time.

**Part IV. Summary of Information Collected and Analyzed**

No new information was collected this year.

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

**Programmatic**

Storm water management position created/staffed	(y/n)	Yes
Annual program budget/expenditures	(\$)	\$500+

**Education, Involvement, and Training**

Estimated number of residents reached by education program(s)	(# or %)	70 %
Stormwater management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	Yes
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Yes
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	1
▪ community participation	(%)	10%
▪ material collected	(tons or gal)	On file with BOH
School curricula implemented	(y/n)	Yes

## Legal/Regulatory

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

## Mapping and Illicit Discharges

Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	138
System-Wide mapping complete	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	100
▪ CADD	(%)	100
▪ GIS	(%)	100
Outfalls inspected/screened	(# or %)	10
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	30%
% of population on septic systems	(%)	70%

## Construction

Number of construction starts (>1-acre)	(#)	42
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100%
Site inspections completed	(# or %)	100%
Tickets/Stop work orders issued	(# or %)	5
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	56

## Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections completed	(# or %)	100%
Estimated volume of stormwater recharged	(gpy)	100%

## Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1/yr
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	1/yr
Total number of structures cleaned	(#)	1,463
Storm drain cleaned	(LF or mi.)	0 LF
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	Not weighed 50 Yards
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Screened for compost
Cost of screenings disposal	(\$)	\$0.00

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1/yr
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	1/yr
Qty. of sand/debris collected by sweeping	(lbs. or tons)	Not weighed
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Screened for compose
Cost of sweepings disposal	(\$)	\$0.00
Vacuum street sweepers purchased/leased	(#)	0
Vacuum street sweepers specified in contracts	(y/n)	0

Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers	(lbs. or %)	100 lbs.
▪ Herbicides	(lbs. or %)	4 gals.
▪ Pesticides	(lbs. or %)	N/A

Anti-/De-Icing products and ratios	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	33%      67%
Pre-wetting techniques utilized	(y/n)	No
Manual control spreaders used	(y/n)	No
Automatic or Zero-velocity spreaders used	(y/n)	Yes
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	Yes
Storage shed(s) in design or under construction	(y/n)	No