

**MS4 General Permit
Town of Lisbon 2019 Annual Report
Existing MS4 Permittee
Permit Number GSM 000018
[January 1, 2019 – December 31, 2019]**

This report documents the Town of Lisbon's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2019 to December 31, 2019.

Part I: Summary of Minimum Control Measure Activities

1. Public Education and Outreach (Section 6 (a)(1) / page 19)

1.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
1-1 Implement public education and outreach	Ongoing	Maintain town website with information on program and informational links	Maintain website	First Selectman	Ongoing	Completed December 2018	The website continues to be updated annually
1-2 Address education/ outreach for pollutants of concern*	Ongoing	Maintain town website with information on program and informational links appropriate to pollutants of concern	Maintain website	First Selectman /Engineering Consultant	Ongoing	To be Completed December 2018	The website continues to be updated annually

1.2 Describe any Public Education and Outreach activities planned for the next year, if applicable.

- Public Education and Outreach will continue to be offered via the Town's website.

1.3 Details of activities implemented to educate the community on stormwater

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.
None this year				

2. Public Involvement/Participation (Section 6(a)(2) / page 21)

2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
2-1 Comply with public notice requirements for the Stormwater Management Plan	In progress	Draft Storm water Management Plan in progress of being finalized.	Storm water Management Plan posted on website	First Selectman/ Engineering Consultant	Ongoing	April, 2019	Results of testing will posted on town website and filed with CTDEEP
2-2 Comply with public notice requirements for Annual Reports	In progress	Annual Report completed and posted	Annual Reports Posted on website	First Selectman/ Engineering Consultant	Feb 15, 2019	April, 2019	

2.2 Describe any Public Involvement/Participation activities planned for the next year, if applicable.

No events are planned

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public	y	Ongoing	https://www.lisbonct.com/ms4-stormwater
Availability of Annual Report announced to public	y	Ongoing	https://www.lisbonct.com/ms4-stormwater

3. Illicit Discharge Detection and Elimination (Section 6(a)(3) and Appendix B / page 22)

3.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
3-1 Develop written IDDE program	Complete	Town has written IDDE program using the CT IDDE program template	Develop written plan of IDDE program	Town's Engineering Consultant	Jul 1, 2018	Complete	Updated to include results, updates from 2019.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	Complete	Completed GIS layer of MS4 stormwater outfalls in priority areas	GIS layer of MS4 stormwater outfalls in priority areas	Town's Engineering Consultant	Jul 1, 2019	April 2019	Maps will be made available on the Town's website.
3-3 Implement citizen reporting program	On going	Stormwater Hotline with telephone number and e-mail provided.	GIS layer of reports	First Selectman/ Town's Engineering Consultant	Ongoing	Ongoing	
3-4 Establish legal authority to prohibit illicit discharges	90% Complete	Draft ordinance prepared for endorsement by P&Z and CC before referral to Board of Selectmen for action	Adoption of town ordinance with enforcement provisions	Consulting Town planner/Town Attorney	Jul 1, 2018	Spring 2020	Ordinance will establish legal authority and support land use regulation amendments in progress
3-5 Develop record keeping system for IDDE tracking	In Progress	GIS layer under development	Develop GIS layer	Town's Engineering Consultant	Jul 1, 2017	April, 2019	
3-6 Address IDDE in areas with pollutants of concern	Not Started	Began investigation of outfalls	Investigate outfalls with IDDE, build GIS layer	First Selectman/ Town's Engineering Consultant	Not specified	Ongoing through term of permit	

3.2 Describe any IDDE activities planned for the next year, if applicable.

The written IDDE program will be posted to the MS4 webpage and a link listed in next year's Annual Report. IDDE program will be updated as needed throughout the permit term. <https://www.lisbonct.com/ms4-stormwater>
Develop and maintain master IDDE tracking GIS layer to ensure all employees involved in IDDE program understand the logging process.

Commence investigation of suspected outfalls with illicit discharge.

3.3 List of citizen reports of suspected illicit discharges received during this reporting period.

Date of Report	Location / suspected source	Response taken

3.4 Provide a record of illicit discharges occurring during the reporting period and SSOs occurring July 2012 through end of reporting period using the following table.

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)

3.5 Briefly describe the method used to track illicit discharge reports, responses to those reports, and who was responsible for tracking this information.

Once detected, illicit discharges are tracked by the Town's Engineering Consultant using a specific 'field' in the Town's GIS outfall database. The database contains further fields to log and report details of the illicit discharge using the reporting features in ArcMap.
They are then reported to the first selectman who will enforce the legal authority (once established) under 3.1 to prohibit the illicit discharge.

3.6 Provide a summary of actions taken to address septic failures using the table below.

Location and nature of structure with failing septic systems	Actions taken to respond to and address the failures	Impacted waterbody or watershed, if known

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	91 (Mapped)
Estimated or actual number of interconnections	3 (Mapped)
Outfall mapping complete	100%
Interconnection mapping complete	100%
System-wide mapping complete (detailed MS4 infrastructure)	90%
Outfall assessment and priority ranking	100% (Priority Areas)
Dry weather screening of all High and Low priority outfalls complete	100%
Catchment investigations complete	0%
Estimated percentage of MS4 catchment area investigated	0%

3.8 Briefly describe the IDDE training for employees involved in carrying out IDDE tasks including what type of training is provided and how often is it given (minimum once per year).

Training is scheduled for Spring 2020.

4. Construction Site Runoff Control (Section 6(a)(4) / page 25)

4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit	In Progress	Research underway for regulatory framework to be added to land use regulations	Adopt upgraded provisions in zoning and subdivision regulations	Consulting Town planner	Jul 1, 2019	July 1, 2021	Measures will protect/improve water quality, compliance with latest guidelines and enforce long term maintenance
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Completed and on going	Developed staff review memorandum for review of plans	Standardized review and enforcement process	Consulting Town planner	Ongoing	July 1, 2017	Planner coordinates and documents staff plan review process with relevant review agencies
4-3 Review site plans for stormwater quality concerns	Ongoing	Detailed site plan and development review	Standardized review of plans	Consulting Town planner	Ongoing	July 1, 2017	Planner has improved review process and monitoring of development plans/files
4-4 Conduct site inspections	On going		Standardize approach to inspections	Consulting Town planner	Ongoing	July 1, 2017	Planner and staff assess control measures during and after construction with detailed checklists
4-5 Implement procedure to allow public comment on site development	Completed	Provision on website to display plans for public comment	Standardize project access to public on municipal website	Administrative staff/Selectman's office	Ongoing	January 1, 2018	Location on website puts information in proximity to other storm water information and will include information for projects not presented at public hearings/meetings
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Completed	Developed checklists for applications at submittal stage and pre-construction stage	Standardize notice throughout process	Consulting Town planner	Ongoing	January 1, 2018	Notice of state requirements is provided to developers before and after local approvals, and before construction begins

4.2 Describe any Construction Site Runoff Control activities planned for the next year, if applicable.

5. Post-construction Stormwater Management (Section 6(a)(5) / page 27)

5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	In progress	Developed LID site design and installation checklist, and guidelines document for LID	Provide checklist and guidelines document and update land use regulations	Consulting planner	Jul 1, 2021	July 21, 2021	Checklist and guidelines will encourage good planning and design, minimize land disturbances, and disconnect impervious areas when regulations are adopted
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	In progress	Regulations under development	Written regulations in place	First Selectman and planning staff	Ongoing beginning Jul 1, 2019	Jul 1, 2019	
5-3 Identify retention and detention ponds in priority areas	In progress	Town wide identification under way	GIS layer completed	First Selectman/ planning staff/Engineering Consultant	Jul 1, 2019	Jul 1, 2019	
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	In progress	BMPS being developed	Plans and BMPS on file	First Selectman/ planning staff/Engineering Consultant	Ongoing beginning Jul 1, 2019	Jul 1, 2019	
5-5 DCIA mapping	In progress	Draft GIS maps begun	GIS layer complete	First Selectman/ planning staff/Engineering Consultant	Jul 1, 2020	Jul 1, 2020	
5-6 Address post-construction issues in areas with pollutants of concern	Not begun		Record of issues addressed	First Selectman/ Planning staff	Not specified		

5.2 Describe any Post-Construction Stormwater Management activities planned for the next year, if applicable.

CLA Engineers to map and create GIS layer of town owned and interconnected stormwater basins and ponds.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	268 Acres
DCIA disconnected (redevelopment plus retrofits)	To be Determined
Retrofits completed	To be Determined
DCIA disconnected	(TDB) % this year / % total since 2012
Estimated cost of retrofits	\$
Detention or retention ponds identified	(TBD) # this year /# total

5.4 Briefly describe the method to be used to determine baseline DCIA.

The baseline DCIA for each watershed has been determined using the Sutherland Equations as presented in the Small MS4 Permit Technical Support Document, Revised April 2014 (Original Document, April 2011)

6. Pollution Prevention/Good Housekeeping (Section 6(a)(6) / page 31)

6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-1 Develop/implement formal employee training program	Complete		Yearly training for staff	First Selectman/ Engineering Consultant	Ongoing	Ongoing	CLA Engineers will be providing training in Spring 2020.
6-2 Implement MS4 property and operations maintenance	In process	Execute Existing SWPPS for town properties	Document execution	First Selectman	Ongoing beginning Jul 1, 2018	Ongoing	
6-3 Implement coordination with interconnected MS4s	Not begun	Continue to identify.	Document and create GIS layer. Make available to CTDOT as needed.	First Selectman	Not specified	Ongoing	
6-4 Develop/implement program to control other sources of pollutants to the MS4	Not begun			First Selectman /Engineering Consultant	Not specified	Ongoing	
6-5 Evaluate additional measures for discharges to impaired waters*	Not begun			First Selectman/ Engineering Consultant	Not specified	Ongoing	
6-6 Track projects that disconnect DCIA	Not begun			First Selectman	Ongoing	Ongoing	

6-7 Implement infrastructure repair/rehab program	Not begun			First Selectman/ Engineering Consultant	Jul 1, 2021	Jul 1, 2021	
6-8 Develop/implement plan to identify/prioritize retrofit projects	Not begun			First Selectman/ Engineering Consultant	Jul 1, 2020	Jul 1, 2020	
6-9 Implement retrofit projects to disconnect 2% of DCIA	Not begun			First Selectman	Jul 1, 2022	Jul 1, 2022	
6-10 Develop/implement street sweeping program	Done	Annual sweeping	Document to file	First Selectman	Ongoing beginning Jul 1, 2017	Jul 1, 2017	
6-11 Develop/implement catch basin cleaning program	In progress	Cleaned 33% of basins, GPS location and volumes	GIS layer developed	First Selectman	Ongoing beginning Jul 1, 2020	Jul 1, 2020	
6-12 Develop/implement snow management practices	In progress			First Selectman	Ongoing beginning Jul 1, 2018	Jul 1, 2018	

6.2 Describe any Pollution Prevention/Good Housekeeping activities planned for the next year, if applicable.

Ongoing street sweeping and catch basin clean out and location. DPW staff will be trained and SWPPS followed at town sites.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Spring 2020
Street sweeping	
Curb miles swept	56 (Approx.)
Volume (or mass) of material collected	Not Known
Catch basin cleaning	
Total catch basins in priority areas	82 (Mapped)
Total catch basins in MS4	417 (Mapped)
	554 (According to Town)
Catch basins inspected	417
Catch basins cleaned	Not Known
Volume (or mass) of material removed from all catch basins	Not Known
Volume removed from catch basins to impaired waters (if known)	Not Known
Snow management	
Type(s) of deicing material used	Sand/Salt
Total amount of each deicing material applied	209 (Salt)
	703 (Sand)
Type(s) of deicing equipment used	
Lane-miles treated	56
Snow disposal location	N/A
Staff training provided on application methods & equipment	OSHA
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	NA
Reduction in turf area (since start of permit)	NA
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	NA

6.4 Catch basin cleaning program

Briefly describe the method used to optimize your catch basin inspection and cleaning schedule.

All catch basins are cleaned annually. No optimization required.

6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project.

Not yet available.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years

Not yet available.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years

Not yet available.

Part II: Impaired waters investigation and monitoring

1. Impaired waters investigation and monitoring program

1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution. This data is available on the MS4 map viewer: <http://s.uconn.edu/ctms4map>.

Nitrogen/ Phosphorus ☒ Bacteria ☐ Mercury ☒ Other Pollutant of Concern ☒

1.2 Describe program status.

Discuss 1) the status of monitoring work completed, 2) a summary of the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.

Inspection of outfalls in proximity to impaired waters located in Lisbon was completed in March 2019. These inspections concluded that only one 'directly connected' outfall discharging to impaired waters was found. Monitoring of this outfall commenced this year in accordance with Section 6(i) of the General Permit.

2. Screening data for outfalls to impaired waterbodies (Section 6(i)(1) / page 41)

2.1 Screening data collected under 2017 permit

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?
139	11/05/19	Nitrogen	0.53 mg/l	Phoenix Labs	No
		Phosphorus	0.135 mg/l	Phoenix Labs	No

No follow up required

Pollutant of concern	Pollutant threshold
Nitrogen	Total N > 2.5 mg/l
Phosphorus	Total P > 0.3 mg/l
Bacteria (fresh waterbody)	<ul style="list-style-type: none">E. coli > 235 col/100ml for swimming areas or 410 col/100ml for all othersTotal Coliform > 500 col/100ml
Bacteria (salt waterbody)	<ul style="list-style-type: none">Fecal Coliform > 31 col/100ml for Class SA and > 260 col/100ml for Class SBEnterococci > 104 col/100ml for swimming areas or 500 col/100 for all others
Other pollutants of concern	Sample turbidity is 5 NTU > in-stream sample

2.2 Credit for screening data collected under 2004 permit

If any outfalls to impaired waters were sampled under the 2004 MS4 permit, that data can count towards the monitoring requirements under the modified 2017 MS4 permit. Complete the table below to record sampling data for any outfalls to impaired waters under the 2004 MS4 permit.

Outfall	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?

3. Follow-up investigations (Section 6(i)(1)(D) / page 43)

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment
N/A		

4. Prioritized outfall monitoring (Section 6(i)(1)(D) / page 43)

Once outfall screening has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2020.

Outfall	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)
N/A				

Part III: Additional IDDE Program Data

1. Assessment and Priority Ranking of Catchments data (Appendix B (A)(7)(c) / page 5)

Provide a list of all catchments with ranking results (DEEP basins may be used instead of manual catchment delineations).

Outfall ID	Waterbody	DEEP Basin	Category	Ranking
33	Versailles Pond	CT3805-00-3-L7_01	Low Priority	5
36	Versailles Pond	CT3805-00-3-L7_01	Low Priority	5
37	Shetucket River	CT3800-00_01	Low Priority	5
38	Shetucket River	CT3800-00_01	Low Priority	5
78	Quinebaug River	CT3700-00_01	Low Priority	5
79	Shetucket River	CT3800-00_01	Low Priority	5
83	Shetucket River	CT3800-00_01	Low Priority	5
84	Shetucket River	CT3800-00_01	Low Priority	5
85	Shetucket River	CT3800-00_01	Low Priority	5
86	Shetucket River	CT3800-00_01	Low Priority	5
87	Shetucket River	CT3800-00_01	Low Priority	5
92	Shetucket River	CT3800-00_01	Low Priority	5
93	Shetucket River	CT3800-00_01	Low Priority	5
97	Shetucket River	CT3800-00_01	Low Priority	5
98	Shetucket River	CT3800-00_01	Low Priority	5
99	Shetucket River	CT3800-00_01	Low Priority	5
102	Shetucket River	CT3800-00_01	Low Priority	5
128	Shetucket River	CT3800-00_01	Low Priority	5
138	Shetucket River	CT3800-00_01	Low Priority	5
139	Versailles Pond	CT3805-00-3-L7_01	Low Priority	5
140	Quinebaug River	CT3700-00_01	Low Priority	5
141	Versailles Pond	CT3805-00-3-L7_01	Low Priority	5
142	Shetucket River	CT3800-00_01	Low Priority	5
146	Quinebaug River	CT3700-00_01	Low Priority	5
147	Shetucket River	CT3800-00_01	Low Priority	5
148	Shetucket River	CT3800-00_01	Low Priority	5

2. Outfall and Interconnection Screening and Sampling data (Appendix B (A)(7)(d) / page 7)

2.1 Dry weather screening and sampling data from outfalls and interconnections

Provide sample data for outfalls where flow is observed. Only include Pollutant of concern data for outfalls that discharge into stormwater impaired waterbodies.

Outfall / Interconnection ID	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
92	7/15/2019	0.1	<0.02	141	0	10	0.05	61.3	None	
142	7/15/2019	0.1	0.04	132	0	41	0	63.6	None	Follow up Required

2.2 Wet weather sample and inspection data

Provide sample data for outfalls and key junction manholes of any catchment area with at least one System Vulnerability Factor.

Outfall / Interconnection ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern

3. Catchment Investigation data (Appendix B (A)(7)(e) / page 9)

3.1 System Vulnerability Factor Summary

For those catchments being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) document the presence or absence of System Vulnerability Factors (SVF). If present, report which SVF's were identified. An example is provided below.

Outfall ID	Receiving Water	System Vulnerability Factors

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
9. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).
12. History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).

3.2 Key junction manhole dry weather screening and sampling data

Key Junction Manhole ID	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants

3.4 Data for each illicit discharge source confirmed through the catchment investigation procedure

Discharge location	Source location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed

Part IV: Certification

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Chief Elected Official or Principal Executive Officer

Print name:

Thomas Sparkman

Signature / Date:

 3/24/2020

Document Prepared by

Print name:

Darren Hayward, P.E.

Signature / Date:

 3/24/20