

Year 4 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: July 1, 2021-June 30, 2022

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed. Please ONLY report on activities between July 1, 2021 and June 30, 2022 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization: City of Malden

EPA NPDES Permit Number: MAR041046

Primary MS4 Program Manager Contact Information

Name: Yem Lip

Title: City Engineer

Street Address Line 1: 215 Pleasant Street

Street Address Line 2: Room 340

City: Malden

State: MA

Zip Code: 02148

Email: ylip@cityofmalden.org

Phone Number: (781) 397-7040

Stormwater Management Program (SWMP) Information

SWMP Location (web address): <https://www.cityofmalden.org/DocumentCenter/View/1969/Malden-Stormwater-Management-Program-PlanPDF>

Date SWMP was Last Updated: 09/2020

If the SWMP is not available on the web please provide the physical address:

Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4. Make sure you are referring to the most recent EPA approved Section 303(d) Impaired Waters List which can be found here: <https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state>

Impairment(s)

Bacteria/Pathogens
 Chloride
 Nitrogen
 Phosphorus
 Solids/ Oil/ Grease (Hydrocarbons)/ Metals

TMDL(s)

In State:

Assabet River Phosphorus
 Bacteria and Pathogen
 Cape Cod Nitrogen
 Charles River Watershed Phosphorus
 Lake and Pond Phosphorus

Out of State:

Bacteria/Pathogens
 Metals
 Nitrogen
 Phosphorus

Clear Impairments and TMDLs

Next, check off all requirements below that have been completed. **By checking each box you are certifying that you have completed that permit requirement fully.** If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.

Year 4 Requirements

Developed a report assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover, made it available as part of the SWMP, and:

- No updates were recommended
- Updates were recommended. The anticipated date or date of completion for updates is/was:

Developed a report assessing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist, made it available as part of the SWMP, and:

- No updates were recommended
- Updates were recommended. The anticipated date or date of completion for updates is/was:

Identified a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious cover

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide an update on previous incomplete milestones, or provide any additional details, please use the box below:

Reports on street/parking lot design and green infrastructure practices will be completed in year 5 and incorporated into updated SWMP

Annual Requirements

- Provided an opportunity for public participation in review and implementation of SWMP and complied with State Public Notice requirements
- Kept records relating to the permit available for 5 years and made available to the public
- The SSO inventory has been updated, including the status of mitigation and corrective measures implemented
 - This is not applicable because we do not have sanitary sewer
 - This is not applicable because we did not find any new SSOs
 - The updated SSO inventory is attached to the email submission
 - The updated SSO inventory can be found at the following website:
- Updated system map due in year 2 as necessary
- Provided training to employees involved in IDDE program within the reporting period
- Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- All curbed roadways were swept at least once within the reporting period
- Enclosed all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Updated inventory of all permittee owned facilities as necessary
- O&M programs for all permittee owned facilities have been completed and updated as necessary
- Implemented all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implemented program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Inspected all permittee owned treatment structures (excluding catch basins)

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The City is in the process of finalizing an updated SWPPP for the Malden DPW Yard and a new SWPP for the Forestdale Cemetery Garage. Salt storage is currently not covered, however an evaluation of reconfiguration alternatives of the DPW yard, including a change in salt storage facilities is being conducted as part of a Municipal Vulnerability Preparedness Action Grant under the Malden River Works Program. A winter maintenance program (BMP 6.7) was prepared and is a part of the SWMP. An existing inventory of all permittee owned facilities has been updated to facilitate the completion of O&M plans as necessary.

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)Annual Requirements*Public Education and Outreach**

- Annual message was distributed encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
 - Permittee or its agents disseminated educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time
 - Provided information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria
- * Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Phosphorus (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- Distributed an annual message in the spring (April/May) encouraging the proper use and disposal of grass clippings and encouraging the proper use of slow-release and phosphorus-free fertilizers
- Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- Increased 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 (spring and fall)

Phosphorus Source Identification Report

- Completed the Phosphorus Source Identification Report
 - The Phosphorus Source Identification Report is attached to the email submission
 - The Phosphorus Source Identification Report can be found at the following website:

Potential structural BMPs

- Any structural BMPs already existing or installed in the regulated area by the permittee or its agents was tracked and the phosphorus removal by the BMP was estimated consistent with Attachment 3 to Appendix F. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP were documented.

- The BMP information is attached to the email submission
- The BMP information can be found at the following website:

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The City is in the process of preparing the Phosphorous Source Identification Report and has collected 13-Total Phosphorous dry weather samples from drainage outfalls to the Malden River. Calculation of the drainage area, impervious area and directly connected impervious area for the Malden River will be included in the report.

In addition, structural BMP opportunities are currently being reviewed by the City. Devir Park improvements are in the construction phase and include deep sump catch basins, hydrodynamic devices and underground infiltration/detention systems.

Comprehensive drainage improvements for the DPW Yard are in the permitting phase as a part of proposed public recreational improvements around the perimeter of the DPW Yard and along the banks of the Malden River. This project is a public/private partnership referred to as Malden River Works. Proposed pretreatment structural BMPs to be installed as a part of the Malden River Works project include deep sump catch basins, sediment forebays and hydrodynamic devices. Proposed treatment structural BMPs include a bioretention area, plantable concrete pavers, underground storage chambers, vegetated swales and infiltration berms & retentive grading.

Solids, Oil and Grease (Hydrocarbons), or Metals

Annual Requirements

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- Increased street sweeping frequency of all municipal owned streets and parking lots to a schedule that targets areas with potential for high pollutant loads
 - The street sweeping schedule is attached to the email submission
 - The street sweeping schedule can be found at the following website:

Attachment 26 to SWMP <https://www.cityofmalden.org/DocumentCenter/View/1969/Malden-Stormwater-Management-Program-PlanPDF>

- Prioritized inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full; Cleaned catch basins more frequently if inspection and maintenance activities indicated excessive sediment or debris loadings

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Optional: Use the box below to provide any additional information you would like to share as part of your self-assessment:



Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?

- Yes
- No

If yes, describe below, including any relevant impairments or TMDLs:

Fellsmere Pond (Segment ID MA 71016) was added to the Massachusetts 303(d) list of impaired waters in 2016, which was approved by USEPA on 2 January 2020. The impairment identified for this segment is Harmful Algal Blooms. Outfall list is being updated based upon recent dry weather outfall inspection program.

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education

Number of educational messages completed during this reporting period: 1

Below, report on the educational messages completed during this reporting period. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.

BMP:Pet Waste, Yard Waste and Fertilizer Use

Message Description and Distribution Method:

Informational Pamphlets on pet waste, yard waste and fertilizer use posted on City Stormwater web page

Targeted Audience: Residents

Responsible Department/Parties: Engineering

Measurable Goal(s):

The City is evaluating alternatives for quantifying the effectiveness of these measures.

Message Date(s): Posted on City stormwater web page

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

Add an Educational Message

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) during this reporting period:

The SWMP has been posted on the City stormwater web page.Updates will be made in year 5 to include a copy of this status report.

Was this opportunity different than what was proposed in your NOI? Yes No

Describe any other public involvement or participation opportunities conducted **during this reporting period:**

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Check off the box below if the statement is true.

This SSO section is NOT applicable because we DO NOT have sanitary sewer

*Below, report on the number of SSOs identified in the MS4 system and removed **during this reporting period.***

Number of SSOs identified: 0

Number of SSOs removed: 0

MS4 System Mapping

Optional: Provide additional status information regarding your map:

Screening of Outfalls/Interconnections

If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses. Please also include the updated inventory and ranking of outfalls/interconnections based on monitoring results.

- No outfalls were inspected
- The outfall screening data is attached to the email submission
- The outfall screening data can be found at the following website:

*Below, report on the number of outfalls/interconnections screened **during this reporting period.***

Number of outfalls screened: 351

Below, report on the percent of outfalls/interconnections screened to date.

Percent of outfalls screened: 8

Optional: Provide additional information regarding your outfall/interconnection screening:

Over the period of May through September of 2022 Malden attempted to inspect all outfall accessible locations during dry weather conditions within the Malden River, Little Creek, Fellsmere Pond, Town Line Brook (and culvert), Lower Spot Pond Brook (and culvert), Linden Brook Culvert, West End Culvert, Forestdale Cemetery Culvert, Malden/Medford Town Line Culvert and the Saugus Branch Brook Culvert. This included a direct inspection of outfalls where accessible, or nearest upstream manholes/catch basins where tributary lines discharged into the receiving water or culvert. The City's extensive system of culverts for historic brooks and streams throughout the City required the inspection of numerous manholes and catch basins upstream of each of these culvert systems. A total of 351 inspections were attempted with flow identified at 28 dry weather locations and 4 locations during a single wet weather sampling event. The preliminary results of this inspection effort have been attached as an email to this report, while a final report will be prepared upon receipt of currently pending data from September 2022 sampling, which will be appended to the City's SWMP.

Catchment Investigations

If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.

- No catchment investigations were conducted
- The catchment investigation data is attached to the email submission
- The catchment investigation data can be found at the following website:

Below, report on the number of catchment investigations completed during this reporting period.

Number of catchment investigations completed this reporting period: 0

Below, report on the percent of catchments investigated to date.

Percent of total catchments investigated: 0

Optional: Provide any additional information for clarity regarding the catchment investigations below:

Now that accessible dry weather outfall inspections have been completed, catchment areas where indications of bacteria were identified will be prioritized for investigation in Year 5.

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- No illicit discharges were found
- The illicit discharge removal report is attached to the email submission

☐ The illicit discharge removal report can be found at the following website:

Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed during this reporting period.

Number of illicit discharges identified: 0

Number of illicit discharges removed: 0

Estimated volume of sewage removed: 0 gallons/day

Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed since the effective date of the permit (July 1, 2018).

Total number of illicit discharges identified: 0

Total number of illicit discharges removed: 0

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

Employee Training

Describe the frequency and type of employee training conducted **during this reporting period:**

Employee training was scheduled for February of 2022, however the employee designated to complete the training abruptly left the City's employment. A replacement engineer was hired in May of 2022 to specifically address MS4 requirements, however that employee also left prior to implementing the training. The City is evaluating resources to facilitate IDDE training in Year 5.

MCM4: Construction Site Stormwater Runoff Control

Below, report on the construction site plan reviews, inspections, and enforcement actions completed during this reporting period.

Number of site plan reviews completed: 3

Number of inspections completed: 0

Number of enforcement actions taken: 0

Optional: Enter any additional information relevant to construction site plan reviews, inspections, and enforcement actions:

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

Ordinance or Regulatory Mechanism

Date update was completed (due in year 3): Draft revisions have been prepared and review is ongoing by Engineering/ City Council

As-built Drawings

Below, report on the number of as-built drawings received during this reporting period.

Number of as-built drawings received: 4

Optional: Enter any additional information relevant to the submission of as-built drawings:

Retrofit Properties Inventory

Below, list the permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas (at least 5):

1. Malden Department of Public Works - 356 Commercial Street
2. Newman Park/Ferryway School
3. MacArthur Park
4. Fellsmere Pond
5. Trafton & Kierstead Parks
6. Devir Park

MCM6: Good Housekeeping

Catch Basin Cleaning

Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins during this reporting period.

Number of catch basins inspected: 36

Number of catch basins cleaned: 36

Total volume or mass of material removed from all catch basins: 169.59 tons

Below, report on the total number of catch basins in the MS4 system.

Total number of catch basins: 2,994

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

The City maintains a list of locations where routine catch basin cleaning is required where flooding has occurred.

Street Sweeping

Report on street sweeping completed during this reporting period using one of the three metrics below.

- Number of miles cleaned:
- Volume of material removed: [Select Units]
- Weight of material removed: 849.91 tons

Stormwater Pollution Prevention Plan (SWPPP)

Below, report on the number of site inspections for facilities that require a SWPPP completed during this reporting period.

Number of site inspections completed: 0

Describe any corrective actions taken at a facility with a SWPPP:

SWPPP's for the Public Works facility on Commercial Street and the Forestdale Cemetery Garage have been updated/prepared and an inspection of each facility was completed in July of 2022, with follow up inspections planned for completion in Year 5.

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- Not applicable
- The results from additional reports or studies are attached to the email submission
- The results from additional reports or studies can be found at the following website(s):

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above:

COVID-19 Impacts

Optional: If any of the above year 4 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

The City is continuing to work on addressing the requirements of the MS4 permit that had been delayed in prior years due to lack of access, necessary personnel and resources that were in part affected due to the prioritization of resources as a consequence to the pandemic.

Activities Planned for Next Reporting Period

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 5 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4

- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all curbed streets at least annually
- Continue investigations of catchments associated with Problem Outfalls
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Review inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; update if necessary
- Review O&M programs for all permittee owned facilities; update if necessary
- Implement all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implement program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Enclose all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Review as-built drawings for new and redevelopment to ensure compliance with post construction bylaws, regulations, or regulatory mechanism consistent with permit requirements
- Inspect all permittee owned treatment structures (excluding catch basins)
- Identify additional permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas so that the permittee maintains a minimum of 5 sites in their inventory, until such a time when the permittee has less than 5 sites remaining

Provide any additional details on activities planned for permit year 5 below:

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Part V: Certification of Small MS4 Annual Report 2021

40 CFR 144.32(d) Certification

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

Name: Title:

Signature: Date:

[Signatory may be a duly authorized representative]