

MS4 General Permit
Town of Madison 2020 Annual Report
Existing MS4 Permittee
Permit Number GSM 000051
January 1, 2020 – December 31, 2020

This report documents the Town of Madison’s efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2020 to December 31, 2020.

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 | Complete | <ul style="list-style-type: none"> • Town DPW website includes stormwater management background information, general permit descriptions and informational resources • The informational resources include links to: EPA NPDES Stormwater Program, CTDEEP Stormwater Management Program, CTDEEP Watershed Management Program, Center for Watershed Protection and the Local Government Environmental Assistance Network • Held “Madison Green Up Clean Up Day” on April 25, 2020 to raise environmental awareness and help keep Madison clean. | Educate the public & raise environmental awareness | Public Works Rob Russo, P.E. | Jul 1, 2018 | January 1, 2018 | |

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|--|-----------------|---|--|---|------------------------|---------------------|--|
| <p>1-2 Address education/ outreach for pollutants of concern</p> | <p>Complete</p> | <ul style="list-style-type: none"> • CTDEEP Water Quality/ Stormwater summary factsheet available on the Town's DPW website • Animal Waste & Water Quality literature focusing on bacterial contamination located within Town Hall • Homeowner's Guide to Septic Systems & Wells which includes information on stormwater and water quality is located on the Town's Health Department website • The DPW in coordination with the Madison Conservation Commission have installed "Entering Watershed" signage Town wide notifying residents to use care when handling fertilizer, salt, pet waste, herbicides and washing vehicles. | <p>Raise awareness for pollutants of concern</p> | <p>Public Works Rob Russo, P.E.</p> | <p>Jul 1, 2018</p> | <p>July 1, 2018</p> | |
|--|-----------------|---|--|---|------------------------|---------------------|--|

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|---|----------|--|--|---------------------------------|---|------------------|--|
| 1-3 Integrate storm water management, pollution prevention & water quality into school curriculum | Complete | <ul style="list-style-type: none"> The collaboration between the Department of Public Works and the Madison Public Schools science teachers regarding stormwater education was suspended in 2020 due to the COVID-19 global pandemic. Recent discussions have indicated this collaboration will continue again in 2021. | Educate students on common stormwater, pollution prevention & water quality topics | Public Works Rob Russo, P.E. | - | Ongoing Annually | |
|---|----------|--|--|---------------------------------|---|------------------|--|

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

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| <ul style="list-style-type: none"> - Madison Green Up Clean Up Day 2021 - Re-start educational lectures and Q&A sessions to Madison Public Schools 7th Graders on stormwater runoff, pollution, water quality & illicit discharges - Re-start coordination & implementation of stormwater sampling into the water chemistry unit of the Daniel Hand High School Marine Science class |
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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. |
|--------------------------|---|------------------|--|-----------------------------------|
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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 | Complete | <ul style="list-style-type: none"> The Stormwater Management Plan is available on the Town of Madison's Public Works website | Provide public notice and access to the Town's Stormwater Management Plan | Public Works Rob Russo, P.E. | Apr 3, 2017 | April 3, 2017 | |
| 2-2 Comply with public notice requirements for Annual Reports | Complete | <ul style="list-style-type: none"> The 2016, 2017, 2018 & 2019, 2020 Annual Reports have been made available to the public on the Town of Madison's Public Works website | Provide public notice and access to the Town's Annual Reports | Public Works Rob Russo, P.E. | Feb 15, 2020 | January 25, 2020 | |

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

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| <ul style="list-style-type: none"> - Madison Green Up Clean Up Day 2021 - Continue compliance with public notice requirements for the Annual Report |
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2.3 Public Involvement/Participation reporting metrics

| Metrics | Implemented | Date | Posted |
|--|-------------|------------------|--|
| Availability of the Stormwater Management Plan announced to public | Yes | April 3, 2017 | Town of Madison's Public Works Website |
| Availability of Annual Report announced to public | Yes | January 25, 2020 | Town of Madison's Public Works Website |

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 | <ul style="list-style-type: none"> The IDDE program has been completed and is available on the Town's DPW website | Develop written plan of IDDE program | Public Works Rob Russo, P.E. | Jul 1, 2018 | July 1, 2018 | |
| 3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas | Complete | <ul style="list-style-type: none"> The Town's storm drainage systems which include piping, outfalls, catch basins and other structures have been identified & mapped in a GIS database. | Map all Townwide Stormwater Outfalls | Public Works Rob Russo, P.E. | Jul 1, 2019 | July 1, 2019 | |
| 3-3 Implement citizen reporting program | Complete | <ul style="list-style-type: none"> The Town of Madison's Public Works website encourages citizens to report illicit discharges through a "Report a Concern" function | Promote citizen reporting of illicit discharges into the Town's storm drainage systems | Public Works Rob Russo, P.E. | Jul 1, 2017 | July 1, 2017 | |
| 3-4 Establish legal authority to prohibit illicit discharges | Complete | <ul style="list-style-type: none"> The Town has implemented an Illicit Discharge Detection and Elimination Stormwater Ordinance into the Town of Madison Code of Ordinances. Per the ordinance the DPW will be responsible for investigating, monitoring and prohibiting illicit discharges. | Create a legal authority consisting of an individual or individuals who will investigate, monitor & eliminate reported illicit discharges | Public Works Rob Russo, P.E. | Jul 1, 2018 | August 17, 2018 | |
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|--|-------------|---|---|-----------------------------------|-------------|--------------|--|
| 3-5 Develop record keeping system for IDDE tracking | Complete | <ul style="list-style-type: none"> The Town of Madison's Public Works Department has implemented Cartegraph Operational & Asset Management software to record stormwater related issues and track illicit discharges | Create & maintain a current and reliable system for recording stormwater issues and tracking illicit discharges | Public Works Beth Anne Twohill | Jul 1, 2017 | July 1, 2017 | |
| 3-6 Address IDDE in areas with pollutants of concern | Not Started | <ul style="list-style-type: none"> No activities to declare during current reporting period | | | | | |

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

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| <ul style="list-style-type: none"> Utilize the IDDE program to continue baseline and catchment area sampling (dry and wet). Utilize the stormwater ordinance to investigate, monitor and eliminate discovered illicit discharges. Continue IDDE outfall screenings in MS4 priority area Citizen illicit discharge concerns will be recorded and tracked by the Department of Public Works in the Cartegraph software. |
|---|

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

| Date of Report | Location / suspected source | Response taken |
|----------------|-----------------------------|----------------|
| N/A | | |
| | | |
| | | |

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. **The Town of Madison has no SSOs**

| 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) |
|--|---------------------------------|-----------------------------------|-----------------------------|--|---|-------------------------------|
| N/A | | | | | | |
| N/A | | | | | | |

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

Illicit Discharge reports as well as other stormwater related issues/concerns are received by the Department of Public Works and input into Cartegraph Operational & Asset Management software. The information is stored in a database which is graphically linked to Town wide GIS mapping. The DPW administrative assistant will generate a work request from the database and distribute to the DPW personnel. The DPW personnel, upon receipt of the work request investigates, monitors and takes the appropriate action in accordance with the IDDE Ordinance.

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 |
|--|---|---|
| Approximately 125 Town-wide septic system permits issued 44% of septic system permits issued are repairs due to septic failures | Property owners are issued order letter with specific time frame (if necessary) to have system designed by a professional engineer or licensed septic contractor and installed immediately. | No evidence of contaminated drinking water or groundwater |
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3.7 IDDE reporting metrics

| Metrics | |
|--|-----------------|
| Estimated or actual number of MS4 outfalls | 745 - Estimated |
| Estimated or actual number of interconnections | 28 - Estimated |
| Outfall mapping complete | 100% |
| Interconnection mapping complete | 100% |
| System-wide mapping complete (detailed MS4 infrastructure) | 95% |
| Outfall assessment and priority ranking | 90% |
| Dry weather screening of all High and Low priority outfalls complete | 50% |
| Catchment investigations complete | 60% |
| Estimated percentage of MS4 catchment area investigated | 60% |

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).

The Illicit Discharge Detection and Elimination (IDDE) Program has been made available to the public via the Town website as well as all internal Town employees. A hard copy of the program is kept at the Town garage for Department of Public Works employees to reference.

No formal IDDE training has been implemented at this time.

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 | Complete | <ul style="list-style-type: none"> All proposed development projects are reviewed by the Public Works & Land Use Departments for compliance with State of Connecticut 2002 Guidelines for Soil Erosion and Sediment Control, 2004 Connecticut Stormwater Quality Manual, Town of Madison Zoning Regulations, Inland Wetland Regulations and Building Regulations. | Enforce State & Municipal guidelines and regulations to meet requirements of MS4 general permit | Land Use Dave Anderson Public Works Rob Russo, P.E. | Jul 1, 2019 | Ongoing | |
| 4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval | Complete | <ul style="list-style-type: none"> The Town of Madison's Public Works, Land Use, Building & Health Departments coordinate and review site plans for approval Interdepartmental meetings regarding projects are held as necessary | Maximize interdepartmental coordination on site plan reviews through communication | Public Works Rob Russo, P.E. | Jul 1, 2017 | July 1, 2017 | |
| 4-3 Review site plans for stormwater quality concerns | Complete | <ul style="list-style-type: none"> The Town of Madison's Public Works, Land Use, Building & Health Departments perform site plan reviews to identify activities that disturb land surface and detect potential causes of pollution to stormwater runoff | Identify stormwater quality concerns during site plan review process | Land Use Dave Anderson Public Works Rob Russo, P.E. | Jul 1, 2017 | July 1, 2017 | |

| | | | | | | | |
|--|----------|--|---|---------------------------------------|-------------|--------------|--|
| 4-4 Conduct site inspections | Complete | <ul style="list-style-type: none"> Site Developments are inspected by the building official, zoning enforcement officer, public works personnel & inland wetlands officer during construction | Identify stormwater drainage issues with the site development | Building Department Vinny Garafalo | Jul 1, 2017 | July 1, 2017 | |
| 4-5 Implement procedure to allow public comment on site development | Complete | <ul style="list-style-type: none"> The public has the ability to comment on site development at Town Meetings The Town of Madison's website includes a reporting function to receive public comments | Allow public comment on site developments through public meetings and the Town of Madison's website | Public Works Rob Russo, P.E. | Jul 1, 2017 | July 1, 2017 | |
| 4-6 Implement procedure to notify developers about DEEP construction stormwater permit | Complete | <ul style="list-style-type: none"> Developers are notified of the DEEP construction stormwater permit under Section 18 of the Town of Madison's Site Plan Review Application | Notify developers of the DEEP construction stormwater permit | Land Use Dave Anderson | Jul 1, 2017 | July 1, 2017 | |

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

- Continued enforcement of the State's Soil Erosion and Sedimentation Control Guidelines
- Continued enforcement of the State's Stormwater Quality Manual
- Continued enforcement of the Town of Madison's Zoning & Inland Wetland Regulations
- Continued Site Inspections
- Continued review of all proposed site development projects
- Continued implementation of the current procedure to allow public comment on site development
- Continued implementation of the current procedure to notify developers about DEEP construction stormwater permit

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 | <ul style="list-style-type: none"> The Town will review the need for a legal authority & additional guidelines that may be required to meet the intent of this permit. | Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning | Dave Anderson Land Use | Jul 1, 2021 | July 1, 2021 | |
| 5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects | Complete | <ul style="list-style-type: none"> The Town strongly encourages LID in projects and enforces runoff reduction through the use of stormwater regulations. The Town's current stormwater regulations require the applicant to minimize impervious surfaces and maximize infiltration through the use of vegetated swales, rain gardens, bioretention, etc... | Enforce LID/runoff reduction requirements for development and redevelopment projects | Land Use Dave Anderson Public Works John Iennaco, P.E. | Jul 1, 2019 | July 1, 2019 | |
| 5-3 Identify retention and detention ponds in priority areas | In Progress | <ul style="list-style-type: none"> The majority of Town owned detention ponds have been identified however the ponds still need to be mapped in the GIS database. | Identify retention and detention ponds in priority areas | Public Works Rob Russo, P.E. | Jul 1, 2019 | July 1, 2021 | |

| | | | | | | | |
|---|-------------|---|---|------------------------------------|---------------|------------------------------|--|
| 5-4 Implement long-term maintenance plan for stormwater basins and treatment structures | Complete | <ul style="list-style-type: none"> The Town Engineers perform periodic inspections of the stormwater basins throughout Town. If the health of basin & vegetation is a cause for concern, a wetland scientist is contacted to perform an investigation. If the basin requires routine maintenance, a work request is sent to the Public Works employees for action. | Implement long-term maintenance plan for stormwater basins and treatment structures | Public Works John Iennaco, P.E. | Jul 1, 2019 | July 1, 2019 | |
| 5-5 DCIA mapping | In Progress | <ul style="list-style-type: none"> The DPW is in the process of identifying DCIA's. Due to the COVID-19 global pandemic, the completion of this BMP has been delayed. The DPW intends this calendar year to utilize the Town's GIS, UCONN Clear mapping and aerial imagery to analyze DCIA Town wide. | Identify DCIA's within the MS4 general permit priority area | Public Works Rob Russo, P.E. | Jul 1, 2020 | Anticipated for July 1, 2021 | |
| 5-6 Address post-construction issues in areas with pollutants of concern | Not Started | <ul style="list-style-type: none"> No activities to declare during current reporting period | | | Not specified | | |

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

- Continue review of legal authority and/or other updates to the current regulations to meet those LID and runoff reduction practices required under this permit
- Continued enforcement of LID/runoff reduction on all proposed development and redevelopment projects
- Complete GIS mapping of all identified Town owned detention ponds
- Continue periodic inspections, wetland scientist investigations and routine maintenance on all Town owned detention pond and stormwater treatment structures
- Complete DCIA mapping

5.3 Post-Construction Stormwater Management reporting metrics

| Metrics | |
|---|---------|
| Baseline (2012) Directly Connected Impervious Area (DCIA) | N/A |
| DCIA disconnected (redevelopment plus retrofits) | N/A |
| Retrofits completed | N/A |
| DCIA disconnected | N/A |
| Estimated cost of retrofits | N/A |
| Detention or retention ponds identified | 4 ponds |

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

The Town of Madison will be following the guidance provided by CTDEEP and UCONN Clear to calculate the baseline Directly Connected Impervious Area (DCIA) of the watershed that contributes stormwater runoff to each of its MS4 outfalls.

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 | <ul style="list-style-type: none"> Stormwater Pollution Prevention Yearly Training for the Town's Department of Public Works was delayed this year due to the Town's consultant retiring. The recently hired consultant is currently preparing a proposal to continue this training in 2021. | Educate & train Town personnel on stormwater management and pollution prevention | Public Works Rob Russo, P.E. | Jul 1, 2017 | Ongoing | |
| 6-2 Implement MS4 property and operations maintenance | Complete | <ul style="list-style-type: none"> Under the general permit associated with industrial activity, the Town's Bulky Waste & Garage properties are currently being maintained. In accordance with the permit, stormwater samples are being obtained, analyzed and submitted to CTDEEP by SLR Consulting. Additional Town impervious areas such as the school properties were swept during low traffic volumes. Catch Basins on these properties are routinely cleaned biannually. | Maintain all Town owned properties in accordance with the MS4 General Permit | Public Works Rob Russo, P.E. | Jul 1, 2018 | Ongoing | |
| 6-3 Implement coordination with interconnected MS4s | In Progress | <ul style="list-style-type: none"> The Town has researched, identified & mapped interconnections with other MS4s. Further coordination is required. | Coordinate interconnected MS4's | Public Works Rob Russo, P.E. | Not specified | Anticipated for July 1, 2021 | |

| | | | | | | | |
|---|-------------|---|---|------------------------------------|---------------|------------------------------|--|
| | | | | | | | |
| 6-4 Develop/implement program to control other sources of pollutants to the MS4 | Not Started | <ul style="list-style-type: none"> No activities to declare during current reporting period | | | Not specified | | |
| 6-5 Evaluate additional measures for discharges to impaired waters* | Not Started | <ul style="list-style-type: none"> No activities to declare during current reporting period | | | Not specified | | |
| 6-6 Track projects that disconnect DCIA | Complete | <ul style="list-style-type: none"> The Town of Madison is currently tracking projects that disconnect DCIA via an internal database. | Track & monitor projects that disconnect DCIA | Public Works Rob Russo, P.E. | Jul 1, 2017 | Ongoing | |
| 6-7 Implement infrastructure repair/rehab program | Complete | <ul style="list-style-type: none"> Based on DPW inspections, citizen reports and annual roadway improvement projects, storm drainage infrastructure rehabilitation & repair projects are completed by DPW personnel or bid to private contractors. | Improve, repair & rehabilitate Town wide storm drainage infrastructure. | Public Works John Iennaco, P.E. | Jul 1, 2021 | Ongoing | |
| 6-8 Develop/implement plan to identify/prioritize retrofit projects | In Progress | <ul style="list-style-type: none"> The DPW is in the process of identifying potential retrofit projects. | | | Jul 1, 2020 | Anticipated for July 1, 2021 | |
| 6-9 Implement retrofit projects to disconnect 2% of DCIA | Not Started | <ul style="list-style-type: none"> No activities to declare during current reporting period | | | Jul 1, 2022 | | |

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|---|----------|---|--|------------------------------------|-------------|---------|--|
| 6-10 Develop/implement street sweeping program | Complete | <ul style="list-style-type: none"> The Town of Madison's annual street sweeping program was completed by the Department of Public Works. Approximately 125 miles of Town roads were swept as part of the annual program. Additional Town impervious areas such as the school properties were also included in the program. | Continue annual street sweeping program to mitigate sediment & debris on Town roads and properties | Public Works John Iennaco, P.E. | Jul 1, 2017 | Ongoing | |
| 6-11 Develop/implement catch basin cleaning program | Complete | <ul style="list-style-type: none"> The Town of Madison's annual catch basin cleaning program was completed by Kropp Environmental Contractors. 600 catch basins were cleaned during this reporting period. | Continue catch basin cleaning program to remove sediment & debris from basins and improve stormwater quality | Public Works John Iennaco, P.E. | Jul 1, 2020 | Ongoing | |
| 6-12 Develop/implement snow management practices | Complete | <ul style="list-style-type: none"> Road salt was utilized to treat Town roads during storm events as opposed to a salt/sand mixture; preventing sediment accumulation in catch basins To mitigate wetland impacts, adjacent snow banks/piles were transported to Town properties | Continue snow management practices to mitigate the effect on water quality and the Town's storm drainage infrastructure. | Public Works John Iennaco, P.E. | Jul 1, 2018 | Ongoing | |

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

- Re-start Stormwater Pollution Prevention Training for Department of Public Works Personnel
- Additional maintenance on Town owned MS4 properties
- MS4 interconnection coordination with other MS4's
- Continue tracking projects that disconnect DCIA
- Continue Street Sweeping and Catch Basin Cleaning Programs
- Develop a plan to prioritize retrofit projects

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

| Metrics | |
|--|--|
| Employee training provided for key staff | No - Delayed |
| Street sweeping | |
| Curb miles swept | 250 miles |
| Volume (or mass) of material collected | N/A |
| Catch basin cleaning | |
| Total catch basins in priority areas | 2,154 |
| Total catch basins in MS4 | 2,643 |
| Catch basins inspected | 600 |
| Catch basins cleaned | 600 |
| Volume (or mass) of material removed from all catch basins | 550 C.Y. |
| Volume removed from catch basins to impaired waters (if known) | N/A |
| Snow management | |
| Type(s) of deicing material used | Road Salt |
| Total amount of each deicing material applied | 867 tons |
| Type(s) of deicing equipment used | 6 wheel dump trucks w/ computerized salt spreading equipment |
| Lane-miles treated | 250 miles |
| Snow disposal location | Exchange Field |
| Staff training provided on application methods & equipment | Yes for New Hires |
| Municipal turf management program actions (for permittee properties in basins with N/P impairments) | |
| Reduction in application of fertilizers (since start of permit) | N/A |
| Reduction in turf area (since start of permit) | N/A |
| Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems) | |
| Cost of mitigation actions/retrofits | N/A |

6.4 Catch basin cleaning program

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

The Town of Madison Department of Public Works personnel performed visual inspections of the catch basins throughout Town to determine which areas were most in need of cleaning. These observations in conjunction with residents work requests provide direction on which quadrant of Town will be cleaned in a given year. The remaining quadrants of Town will be targeted in subsequent years.

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. [

N/A

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

N/A

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

N/A

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.

In May of 2020, Ted Stevens, P.E., the Town's stormwater consultant retired. With his retirement occurring in the middle of the COVID-19 global pandemic, the Town's stormwater sampling program was delayed. In October, the Town entered into a contract with SLR consulting to complete the annual MS4 monitoring with the funding available. In regard to impaired waters, SLR investigated 5 outfalls, sampling 4 of them. The 5 outfall sample locations were strategically selected based on a number of factors including their proximity to the impaired water body, development density and land use. The collected samples were sent to a certified lab and analyzed for the pollutant of concern (bacteria). Of the 4 outfalls sampled, two exceeded the pollutant threshold. These two outfall locations have been noted in the Town's records and will be analyzed further when the "Worst 6 Outfalls" annual monitoring locations are being determined. Due to the aforementioned delay in 2020, the "Worst 6 Outfalls" annual monitoring is now anticipated to begin by July 1, 2021. To date, the Town of Madison has investigated and/or sampled 26 outfalls which discharge to a tributary of or directly to impaired water bodies.

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

2.1 Screening data

Complete the table below for any outfalls screened during the reporting period. Each Annual Report will add on to the previous year's screening data showing a cumulative list of outfall screening data.

| Outfall ID | Sample date | Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern) | Results | Name of Laboratory (if used) | Follow-up required? |
|------------|-------------|---|-------------------|------------------------------------|---------------------|
| OF-8 | 6-20-19 | Bacteria – E. coli | 47.3 MPN/100ml | CET, Inc. | Yes |
| OF-42 | 6-20-19 | Bacteria – E. coli | 1553.1 MPN/100ml | CET, Inc. | Yes |
| OF-71 | 6-20-19 | Bacteria – E. coli | 1413.6 MPN/100ml | CET, Inc. | Yes |
| OF-72 | 6-20-19 | Bacteria – E. coli | >2419.6 MPN/100ml | CET, Inc. | Yes |
| OF-89 | 6-20-19 | Bacteria – E. coli | >2419.6 MPN/100ml | CET, Inc. | Yes |
| OF-123 | 6-20-19 | Bacteria – E. coli | >2419.6 MPN/100ml | CET, Inc. | Yes |
| OF-263 | 6-20-19 | Bacteria – E. coli | >2419.6 MPN/100ml | CET, Inc. | Yes |
| OF-276 | 6-20-19 | Bacteria – E. coli | 50.4 MPN/100ml | CET, Inc. | Yes |
| OF-298 | 6-20-19 | Bacteria – E. coli | 547.5 MPN/100ml | CET, Inc. | Yes |
| OF-257 | 12-9-19 | Bacteria – E. coli | 185 MPN/100ml | CET, Inc. | Yes |
| OF-1.147 | 12-9-19 | Bacteria – E. coli | 50.4 MPN/100ml | CET, Inc. | Yes |
| OF-1.254 | 12-9-19 | Bacteria – E. coli | 111.2 MPN/100ml | CET, Inc. | Yes |
| OF-1.256 | 12-9-19 | Bacteria – E. coli | 44.8 MPN/100ml | CET, Inc. | Yes |
| OF-1.257 | 12-9-19 | Bacteria – E. coli | 36.4 MPN/100ml | CET, Inc. | Yes |
| OF-1.315 | 12-9-19 | Bacteria – E. coli | 328.2 MPN/100ml | CET, Inc. | Yes |
| OF-262 | 5-2-19 | Bacteria – E. coli | Positive | DHHS Lab | Yes |
| OF-258 | 5-2-19 | Bacteria – E. coli | Positive | DHHS Lab | Yes |
| OF-400 | 5-2-19 | Bacteria – E. coli | Positive | DHHS Lab | Yes |
| OF-401 | 12-14-20 | Bacteria – E. coli | >2419.6 MPN/100ml | CET, Inc. | Yes |
| OF-259 | 12-14-20 | Bacteria – E. coli | 55.40 MPN/100ml | CET, Inc. | Yes |
| OF-40 | 12-14-20 | Bacteria – E. coli | 214.30 MPN/100ml | CET, Inc. | Yes |
| OF-400 | 12-14-20 | Bacteria – E. coli | 816.40 MPN/100ml | CET, Inc. | Yes |
| OF-1.112 | 12-14-20 | Bacteria – E. coli | No Flow | | Yes |

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? |
|-----------------------|-------------|---|------------------|------------------------------|---------------------|
| 68 Neck Road | 11/15/16 | Bacteria - E. coli | >24196 MPN/100ml | CET, Inc. | Yes |
| 68 Neck Road | 12/17/15 | Bacteria - E. coli | 2419 MPN/100ml | CET, Inc. | Yes |
| 68 Neck Road | 10/19/12 | Bacteria - E. coli | 1203.3 MPN/100ml | ECL, Inc. | Yes |
| 68 Neck Road | 11/16/11 | Bacteria - E. coli | 488.4 MPN/100ml | ECL, Inc. | Yes |
| 55 Mungertown Road | 12/15/16 | Bacteria - E. coli | 7701 MPN/100ml | CET, Inc. | Yes |
| 55 Mungertown Road | 12/17/15 | Bacteria - E. coli | 579.4 MPN/100ml | CET, Inc. | Yes |
| 55 Mungertown Road | 10/19/12 | Bacteria - E. coli | 165.8 MPN/100ml | ECL, Inc. | Yes |
| 55 Mungertown Road | 11/16/11 | Bacteria - E. coli | 449.5 MPN/100ml | ECL, Inc. | Yes |
| 203 Curry Cross Road | 11/15/16 | Bacteria - E. coli | >24196 MPN/100ml | CET, Inc. | Yes |
| 203 Curry Cross Road | 12/17/15 | Bacteria - E. coli | 193.5 MPN/100ml | CET, Inc. | Yes |
| 203 Curry Cross Road | 10/19/12 | Bacteria - E. coli | 139.6 MPN/100ml | ECL, Inc. | Yes |
| 203 Curry Cross Road | 11/16/11 | Bacteria - E. coli | 151.5 MPN/100ml | ECL, Inc. | Yes |
| 203 Curry Cross Road | 9/11/09 | Bacteria - E. coli | 161.6 MPN/100ml | ECL, Inc. | Yes |
| 60 Webster Point Road | 11/15/16 | Bacteria - E. coli | 1414 MPN/100ml | CET, Inc. | Yes |
| 60 Webster Point Road | 12/17/15 | Bacteria - E. coli | 435.2 MPN/100ml | CET, Inc. | Yes |
| 60 Webster Point Road | 10/19/12 | Bacteria - E. coli | 980.4 MPN/100ml | ECL, Inc. | Yes |
| 60 Webster Point Road | 11/16/11 | Bacteria - E. coli | 435.2 MPN/100ml | ECL, Inc. | Yes |

3. Follow-up investigations (Section 6(i)(1)(D) / page 43) – Anticipated for 2021 Annual Report

Provide the following information for outfalls exceeding the pollutant threshold.

| Outfall | Status of drainage area investigation | Control measure implementation to address impairment |
|---------|---------------------------------------|--|
| | | |
| | | |
| | | |

4. Prioritized outfall monitoring (Section 6(i)(1)(D) / page 43) – Anticipated for 2021 Annual Report

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) |
|---------|-------------|--------------|---------|------------------------------|
| | | | | |
| | | | | |
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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).

| Catchment ID (DEEP Basin ID) | Priority Ranking |
|---------------------------------|------------------|
| 5000-17 | High Priority |
| 5000-15 | High Priority |
| 5000-16 | High Priority |
| 5000-14 | High Priority |
| 5000-13 | High Priority |
| 5107-01 | High Priority |
| 5106-00 | High Priority |
| 5106-17 | High Priority |
| 5107-00 | Low Priority |
| 5106-14 | Low Priority |
| 5108-05 | Low Priority |
| 5108-01 | Low Priority |

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 | Flow | Ammonia | Chlorine | Conductivity | Salinity | E. coli or enterococcus | Surfactants | Water Temp | Pollutant of concern | If required, follow-up actions taken |
|------------------------------|-------------------------|------|---------|----------|--------------|----------|-------------------------|-------------|------------|----------------------|--------------------------------------|
| See Attachment A | | | | | | | | | | | |

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 |
|------------------------------|-------------|---------|----------|--------------|----------|-------------------------|-------------|------------|----------------------|
| See Attachment B | | | | | | | | | |

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 |
|------------|-------------------|--|
| 5000-17 | Neck River | None as specified |
| 5000-15 | Long Island Sound | None as specified; high density area (industrial, commercial, residential, parks) |
| 5000-16 | Long Island Sound | None as specified; high density area (industrial, commercial, residential, schools, parks) |
| 5000-13 | Long Island Sound | None as specified |
| 5000-14 | Long Island Sound | None as specified; high density area (commercial, residential, parks) |
| 5106-00 | Hammonasset River | None as specified |
| 5107-01 | Neck River | None as specified; high density area (commercial, residential, schools) |
| 5106-17 | Hammonasset River | None as specified |
| 5107-00 | Neck River | None as specified; high density area (commercial, residential) |
| 5106-14 | Hammonasset River | None as specified |
| 5108-05 | East River | None as specified |
| 5108-01 | East River | None as specified |

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 |
|-------------------------|-------------------------|---|---------|----------|-------------|
| Attachment A | | | | | |
| | | | | | |

3.3 Wet weather investigation outfall sampling data

| Outfall ID | Sample date | Ammonia | Chlorine | Surfactants |
|--------------|-------------|---------|----------|-------------|
| Attachment B | | | | |
| | | | | |

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 |
|---------------------------------------|-----------------|-----------------------|---------------------|-------------------|---------------------|----------------------------------|----------------------------------|
| No sources indicated as of 12/31/2020 | | | | | | | |
| | | | | | | | |

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 | Document Prepared by |
| Print name: | Print name: |
| Signature / Date: | Signature / Date: |

Attachment A
Dry Weather Screening and Sampling Data

| Outfall ID | Screening/Sample Date | Flow Obs. | Ammonia (mg/L) | Chlorine (mg/L) | Conductivity (umhos/cm) | Salinity (mg/L) | Bacteria E. Coli - (MPN/100ml) | Surfactants (mg/L) | Water Temp Degrees F | If required, follow up action taken |
|-------------------|------------------------------|------------------|-----------------------|------------------------|--------------------------------|------------------------|---------------------------------------|---------------------------|-----------------------------|--|
| OF-346 | 12/3/2020 | Yes | 0.14 | 0.32 | 200 | 0.1 | | 0.069 | 41.5 | |
| OF-401 | 12/3/2020 | Yes | | | | | | | | Wet Weather Sampled |

Attachment B
Wet Weather Sampling and Inspection Data

| Outfall ID | Screening/Sample Date | Flow Obs. | Ammonia (mg/L) | Chlorine (mg/L) | Conductivity (umhos/cm) | Salinity (mg/L) | Bacteria E. coli - (MPN/100ml) | Surfactants (mg/L) | Temp. Degrees F | If required, follow up action taken |
|------------|-----------------------|-----------|----------------|-----------------|-------------------------|-----------------|--------------------------------|--------------------|-----------------|-------------------------------------|
| OF-400 | 12/14/2020 | Yes | 0.16 | <0.025 | 20 | <0.10 | 816.4 | 0.16 | 47.8 | |
| OF-401 | 12/14/2020 | Yes | 0.42 | <0.025 | 170 | 0.1 | >2419.60 | 0.072 | 47.8 | |