



STORMWATER POLLUTION PREVENTION PLAN ANNUAL REPORT 2022

City of Red Wing

Email: swppp@ci.red-wing.mn.us

Tel: 651-385-5143

Website: www.red-wing.org



TABLE OF CONTENTS

Introduction _____	4
Stormwater Pollution Prevention Plan _____	5
Public Education and Outreach & Public Involvement and Participation (MCM 1 & 2) ____	6
Distribute Education Materials _____	6
Public Education Program & Public Participation _____	7
Annual Public Meeting _____	8
Input and Opinion on the Adequacy of the SWPPP _____	8
Consider Public Input _____	9
Evaluation of Minimum Control Measure _____	9
Modifications and Improvements _____	9
Illicit Discharge Detection and Elimination (MCM 3) _____	10
Storm Sewer System Map _____	10
Regulatory Control Program _____	11
IDDE Plan and Enforcement _____	11
Non-Stormwater Discharges and Flows _____	11
Evaluation of Minimum Control Measure _____	12
Modifications and Improvements _____	12
Construction Site Runoff Control (MCM 4) _____	13
Construction Site Ordinance _____	13
Site Plan Reviews and Grading Permits _____	13
Construction Site Inspections and Enforcement _____	14
Evaluation of Minimum Control Measure _____	15
Modifications and Improvements _____	16
Post Construction Runoff Control (MCM 5) _____	17
Post Construction Runoff Ordinance _____	17
Operation and Maintenance of BMPs _____	17
Evaluation of Minimum Control Measure _____	17
Modifications and Improvements _____	17
Pollution Prevention & Good Housekeeping (MCM 6) _____	18
Municipal Operations and Maintenance Program _____	18

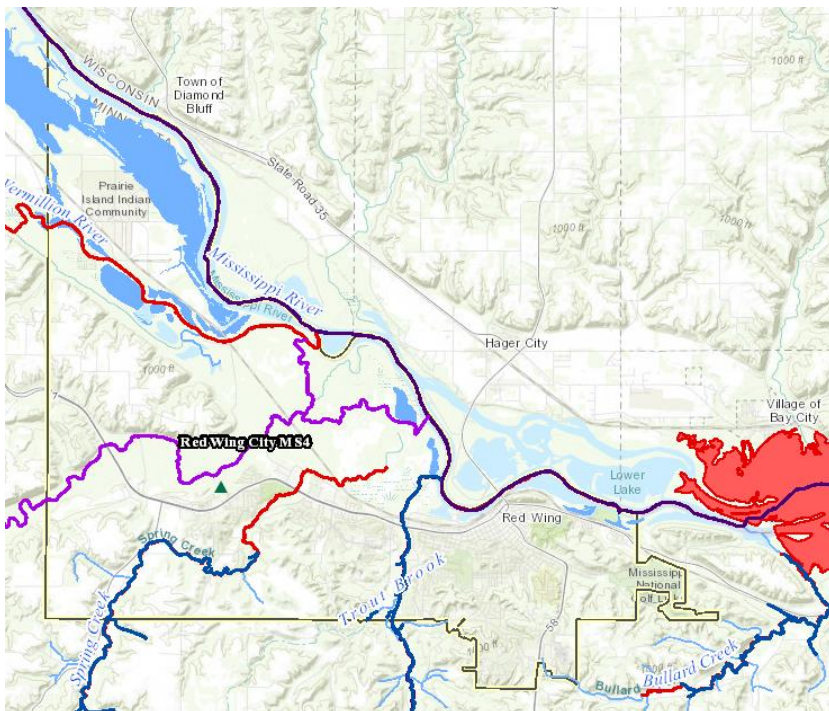
Street Sweeping _____	18
Inspection of Structural Pollution Control Devices and Material Storage Yard _____	18
Record Retention and Reporting _____	19
Industrial Stormwater Permits _____	19
Evaluation of Minimum Control Measure _____	20
Modifications and Improvements _____	20
Impaired Waters _____	21
SWPPP Modifications _____	23
SWPPP Reporting _____	24
2023 Stormwater Activities _____	25

INTRODUCTION

The City of Red Wing, situated on the Mississippi River and surrounded by limestone bluffs has some of the most precious and beautiful water resources around. The City of Red Wing is committed to protecting these resources by aggressive stormwater management.

Stormwater threatens these water resources when rain or melting snow cannot infiltrate into the ground and flows across impervious surfaces like roads, parking lots, and rooftop. Climate change is affecting Red Wing with more frequent and intense precipitation events. This equates to millions of gallons of water falling on human-altered surfaces that change the natural flow of the precipitation. Stormwater picks up pollutants like trash, chemicals, bacteria, sediment, nutrients, and leaf litter that flow directly into our surrounding water bodies. These pollutants degrade our water bodies and cause fish consumption advisories, poor water quality, excess algae, and uninhabitable ecosystems for sensitive species.

“The surest way to improve water quality in Minnesota is to better manage stormwater.” – Minnesota Pollution Control Agency



Impaired Waters in the City of Red Wing

Cannon River	Outstanding resource value water Concern for aquatic life, PCB in fish & nutrients
Hay Creek	Cold-water trout stream Concern for E. coli
Mississippi River	Concern for turbidity, mercury in fish & PCB in fish
Spring Creek	Cold-water trout stream Concern for turbidity & aquatic life
Trout Brook	Cold-water trout stream
Vermillion River	Concern for mercury in fish, PCB in fish & turbidity

Major Surface Water Bodies

STORMWATER POLLUTION PREVENTION PLAN

The National Pollutant Discharge Elimination System (NPDES) is the regulatory mechanism to control discharges into surface water bodies. This program issues permits to protect and reduce the amount of pollutants entering water bodies from municipal, industrial and construction activities. The City of Red Wing began its Stormwater Pollution Prevention Plan (SWPPP) in 2007 when the Minnesota Pollution Control Agency (MPCA) designated it as a regulated Municipal Separate Storm Sewer System (MS4). To comply with our NPDES permit, the City of Red Wing created a detailed plan to reduce stormwater pollution. The SWPPP addresses six minimum control measures(MCMs):

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post Construction Runoff Control
6. Pollution Prevention and Good Housekeeping

Within each minimum control measure are specific activities and measurable goals. The progress and activities for each MCM is outlined below.



PUBLIC EDUCATION AND OUTREACH & PUBLIC INVOLVMENT AND PARTICIPATION (MCM 1 & 2)

Each year, the City of Red Wing identifies specific topics or activities as high priority issues to concentrate on for education and outreach efforts. Residential best management practices (Adopt-A-Drain) and yard waste were the high priority issue to be emphasized in 2022.

Distribute Education Materials

The City of Red Wing informs its citizens about stormwater pollution prevention by publishing articles on its website and in the newspaper Republican Eagle, attending events, and broadcasting informational videos on the cable access Channel 6. The City also distributes “Erosion Control Requirements” packets as part of the building permit process.

Media Name	Dates	Media Type	Estimated Number Distributed/Audience
Where Red Wing's Water Come From Video	4/21/2022-2/6/2023	Channel 6 Video	816 runs (still running)
Adopt-a-Drain Video	8/13/2021-2/6/2023	Channel 6 Video	2,851 runs (still running)
Stormwater Pollution Prevent 2021 Recap Video	4/29/2022-1/6/2023	Channel 6 Video	950 runs (no longer running)
Adopt-a-Drain Slide	NA	Channel 6	Displayed multiple times a day since October 21, 2021
Where Red Wing's Water Come From Video	4/25/22	YouTube	73 views
Adopt-a-Drain	1/1/2022-12/31/2022	Webpage	99 pageviews
Storm Water/Stormwater	1/1/2022-12/31/2022	Webpage	139 pageviews
Wellhead Protection & Water Conservation	1/1/2022-12/31/2022	Webpage	41 pageviews
Storm Sewers	1/1/2022-12/31/2022	Webpage	114 pageviews
Utilities Division	1/1/2022-12/31/2022	Webpage	1,441 pageviews
Pollution Prevention	4/27/22	City Beat Newsletter	925 opens
Snow/Ice Removal Tips to Protect Water	12/16/22	Facebook share	2,190 reach; 13 reactions; 6 comments; 3 shares
Floating boom at Bay Point Park	8/5/22	Instagram post	470 reach; 46 likes; 1 comment

Floating boom at Bay Point Park	8/5/22	Facebook post	5,538 reach; 219 reactions; 9 comments; 13 shares
Water Wednesday posts (14)	3/16/2022-6/29/2022	Facebooks posts	~18,000 combined reach; 98 combined reactions
Grass in streets pollutes rivers	5/31/22	Facebook post	2,319 reach; 16 reactions; 5 comments; 4 shares
Where Red Wing's Water Come From Video	5/18/22	Facebook post	621 reach; 10 reactions; 1 share
Adopt-a-Drain by the numbers 2021	2/24/22	Facebook post	2,477 reach; 16 reactions; 7 comments; 4 shares
Adopt-A-Drain & Sidewalk Salt	February	Utility Bill Insert	6,520
Topography & The River	March	Utility Bill Insert	6,520
Stormwater Pollution	April	Utility Bill Insert	6,520

Public Education Program & Public Participation

The City of Red Wing's Stormwater public education program informs citizens and students about the impact of stormwater discharges on waterways and how the public can take steps to reduce pollution in stormwater runoff. It encourages the public to participate in activities to reduce stormwater pollution.

Date	Event
Ongoing	Adopt-A-Drain
01/28/2022	Presentation at the City Council Workshop on Surface Water Management Plan
02/22/2022	Presentation to Sustainability Commission on Rain Barrel Program
03/14/2022	Presentation to City Council on Rain Barrel/Compost Bins
04/18/2022	Virtual Earth Week
04/23/2022	Rain Barrel and Compost Bin Sale
05/02/2022	4 th Grade Presentation at Water Plant Tours
05/20/2022	Presentation to K-3 rd for Public Works Week

Pet Waste Stations

The City of Red Wing maintains 8 pet waste cleanup stations at 5 locations across the City to encourage pet owners to clean up after their pets. Pet waste is the number one source of E coli in

stormwater in urban areas. Pet waste stations are kept fully stocked with MuttMitt bags at the Goodhue County Historical Museum, Bay Point Park, Colvill Park, Memorial Park, Pine Valley Park and AP Anderson Park. In 2022, more than 24,000 pet wastes bags were provided.

[Yard Waste Composting](#)

The City of Red Wing operates a yard composting facility at the Solid Waste Campus. Here residents can bring leaves and yard waste to dispose of for free. The yard waste is composted by city staff and residents can take the resulting compost for free also! This encourages residents to keep leaves and grass clippings out of city streets. In 2022, 3,500 tons of yard waste were brought to the Solid Waste Campus to be composted. Yard waste, such as leaves and grass clippings left in the street wash down the storm sewer and right into the river, contributing a large amount of nutrients to water bodies.

[Pottery Pond Rain Garden](#)

Pottery Pond Rain Garden was installed in 2009. The Red Wing Master Gardeners spend many hours maintaining the rain garden each year. The Master Gardeners have also installed educational signage in and around the rain garden to educate people about the importance of rain gardens and native plants for clean water.

Annual Public Meeting

The annual public meeting on Red Wing's SWPPP was held on April 25, 2022 to discuss the adequacy of the SWPPP and allow interested people to comment. Public meeting notice was published 30 days prior to the meeting. The public meeting was held has part of the city council virtual meeting.



Input and Opinion on the Adequacy of the SWPPP

City staff received did not receive comments on the SWPPP in 2022. Comments are evaluated to determine how best to incorporate it into the SWPPP. The SWPPP can be viewed at any time on the

City's website at <https://www.red-wing.org/stormwaterurl.html> and input can be sent to swppp@ci.red-wing.mn.us.

Consider Public Input

Input by concerned persons and groups will be reviewed by appropriate city staff in order to determine if the suggestions are relevant to the goals of the SWPPP and, if so, how they could be implemented.

Evaluation of Minimum Control Measure

The Public Education & Outreach and Public Involvement control measures were evaluated to ensure the measurable requirements were achieved. Measurable Requirements Achieved ☒ Yes ☐ No

Modifications and Improvements

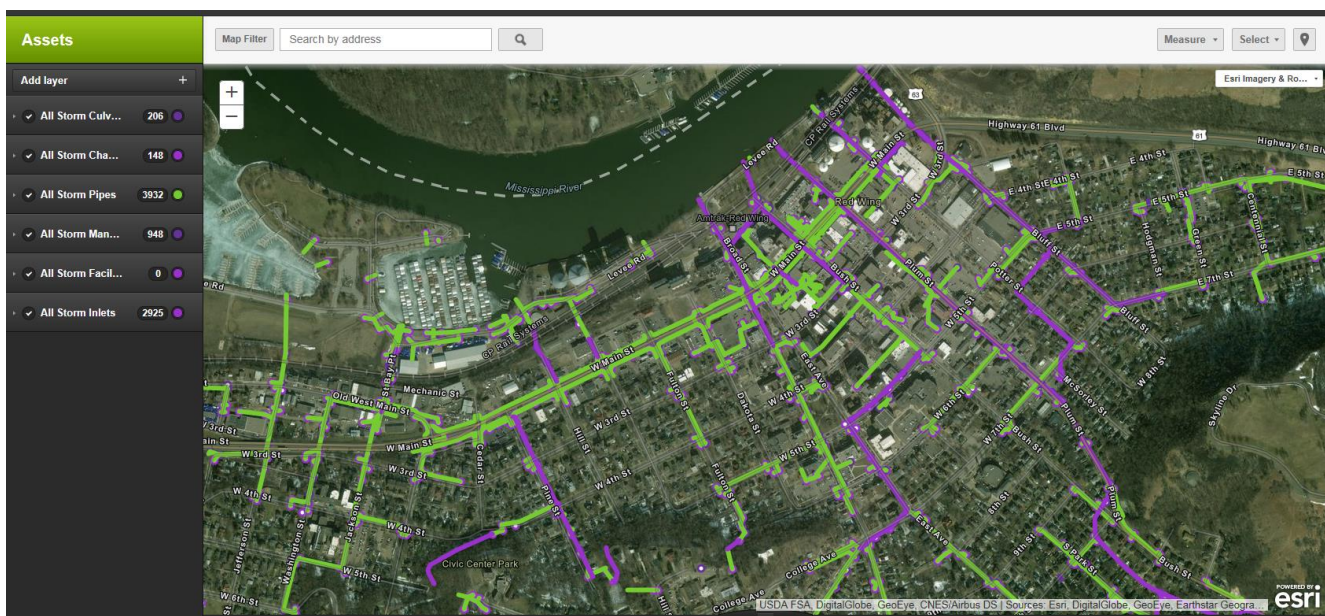
Each year the program considers modification and improvements to increase its effectiveness. These control measures have been successful and no major modifications are planned at this time. Chloride pollution will be high priority topic in 2022. The rain barrel sale was successful and will be considered again. Adopt-A-Drain will continue to run in Red Wing and participation will be encouraged.

ILLICIT DISCHARGE DETECTION AND ELIMINATION (MCM 3)

Storm Sewer System Map

The City of Red Wing maintains a storm sewer system map that includes ponds, streams, lakes, wetlands and structural pollution control devices. These devices include outfalls greater than 12 inches, catch basins and all pipes and conveyances. This GIS map is updated as development and re-development projects are completed, repairs or maintenance are required, or unknown connections are discovered.

Red Wing's Storm Sewer System	
962 Manholes	
2,977 Inlets	
270 Outlets	
72 Ponds	
7 miles of storm tunnel	
50 miles of storm water pipes	



Regulatory Control Program

The City of Red Wing has ordinances to prohibit non-stormwater discharges into the sewer system. These ordinances specifically address illicit discharges, septic systems, illegal dumping, obstruction of the sewers, and the discharge of pollutants into the storm sewer. These ordinances are reviewed annually to ensure their effectiveness.

IDDE Plan and Enforcement

The City of Red Wing maintains an Illicit Discharge Detection and Elimination (IDDE) plan to detect and address non-stormwater discharges throughout the City. The City instructs the public and employees on how to identify illicit discharges and report them to the SWPPP staff. The staff investigates these reports and takes immediate action to remediate the discharge. All Public Works field staff are annually trained specifically in illicit discharge detection and reporting. In 2022 there were 5 illicit discharges or spills detected. These illicit discharges initiated verbal warnings. All the illicit discharges were sufficiently addressed through the written Enforcement Response Procedures.

Spill Kits

Many City vehicles are stocked with spill kits that include absorbant pads and booms in case of a spill or illicit discharge. In addition to the mobile spill kits, there are larger spill kits available at most of the larger City-owned facilities. All the spill kits are restocked annually or after a use and City staff is trained on how to use the materials.

CAER Group

The City of Red Wing is a member of the Community Awareness and Emergency Response group that provides support and preparedness for public safety and environmental quality, and mutual aid during responses to spills. This group can minimize environmental impacts of spills through quick, precise, and collaborative efforts.

Non-Stormwater Discharges and Flows

The City of Red Wing annually reviews its operations and activities to determine if they are significantly contributing to stormwater. These may include: waterline flushing, discharge from pools, irrigation, groundwater, fire-fighting activities, and air conditioning condensation. No discharges were identified as significantly contributing to stormwater in 2022.

Evaluation of Minimum Control Measure

The Illicit Discharge Detection and Elimination control measure was evaluated to ensure the measurable requirements were achieved. Measurable Requirements Achieved ☒ Yes ☐ No

Modifications and Improvements

Each year the program considers modification and improvements to increase its effectiveness. This control measure has been successful and no major modifications are planned at this time. The IDDE plan was reviewed and minor updates were added.

CONSTRUCTION SITE RUNOFF CONTROL (MCM 4)

Construction Site Ordinance

Division 57 “Stormwater Management Regulations” of the City Zoning Code outlines the responsibilities of every contractor or developer actively engaged in disturbing a land area of one acre or more inside the city limits. This regulatory mechanism aligns with the MPCA’s general permit to Discharge Stormwater Associated with Construction Activity. This ordinance is evaluated annually to ensure it complies with the MS4 permit requirements.

Construction Stormwater Management Controls in Division 57
Site Dewatering
Waste and Material Disposal
Tracking
Drain Inlet Protection
Site Erosion

In 2018, the Construction Stormwater General permit expired and was reissued with a new version. Minor changes were made to times frames, amendments and documentation, and clarification of some sections. Red Wing’s current SWPPP is adequate to comply with the permit changes.

Site Plan Reviews and Grading Permits

Red Wing’s Engineering and Community Development Departments review site plans on sites with one acre or more of soil disturbance for construction and more than 50 cubic yards for grading to ensure the site adheres to appropriate stormwater best management practices. In 2022, nine site plans were reviewed and there were four active construction sites with one acre or more of disturbance. On sites less than one acre, the City Engineer and the Zoning Administrator shall determine if a stormwater management plan is required.

Construction Site Inspections and Enforcement

During construction, SWPPP staff inspects the construction sites to ensure the plans are being fulfilled.

In 2022, 25 site inspections occurred by City staff, and specific enforcement action was taken to compel compliance with the construction stormwater management regulations.

Enforcement Action	Number Issued
Verbal Warning	4
Notice of Violation	0
Stop Work Order	0





Evaluation of Minimum Control Measure

The Construction Site Runoff control measure was evaluated to ensure the measurable requirements were achieved. Measurable Requirements Achieved ☒ Yes ☐ No

Modifications and Improvements

Each year the program considers modification and improvements to increase its effectiveness. This control measure has been successful and no major modifications are planned at this time. The MPCA Construction Stormwater Permit will be reissued August 1, 2023. At that time, any new requirements will be incorporated into this program.

POST CONSTRUCTION RUNOFF CONTROL (MCM 5)

Post Construction Runoff Ordinance

Division 57 in the City Zoning Code requires significant attention to post-construction stormwater pollution mitigation practices. This ordinance gives preference to green infrastructure techniques, requires no net increase of stormwater discharge volume and requires infiltration or retaining the first one inch of precipitation over the impervious surface of a site one acre or greater. This ordinance is evaluated annually to ensure it complies with the most recent regulations.

Operation and Maintenance of BMPs

The City of Red Wing inspects and maintains post construction stormwater BMPs on a regular basis to ensure proper function. Any structural stormwater BMPs that the City determines to be privately owned must be inspected annually by the owner and all inspection and maintenance agreements must be recorded. All required routine inspections and maintenance were completed in 2022.

Evaluation of Minimum Control Measure

The Post Construction Runoff control measure was evaluated to ensure the measurable requirements were achieved. Measurable Requirements Achieved ☒ Yes ☐ No

Modifications and Improvements

Each year the program considers modification and improvements to increase its effectiveness. The ordinance was updated to comply with the MS4 NPDES permit.

POLLUTION PREVENTION & GOOD HOUSEKEEPING (MCM 6)

Municipal Operations and Maintenance Program

The City of Red Wing holds an annual information meeting for Public Works employees to educate on activities that might impact stormwater in their day-to-day activities. Training topics include: equipment washing, equipment maintenance, good housekeeping, spill reporting and response, street maintenance, material storage, landscaping, and IDDE. In 2022, the employees viewed a video of these important stormwater topics. All seasonal workers in the City of Red Wing attended a Zoom presentation on stormwater pollution prevention. A meeting for street maintenance workers was held in December 2022 to outline proper use of sand and salt in the winter months. Three street maintenance workers attended an additional training, Smart Salting for Roads, through the Minnesota Pollution Control Agency.

Street Sweeping

The City of Red Wing has an aggressive street sweeping program to keep refuse out of storm sewers. The streets are swept at least three times each year with an emphasis on seasonal sand and leaf removal. Additional sweeping activities occur for spill clean-up or debris removal as needed. In 2022, 827 hours were spent sweeping and approximately 1,080 cubic yards of debris were removed from the streets.

Inspection of Structural Pollution Control Devices and Material Storage Yard

Every year, the City inspects all structural pollution control devices like sump catch basins and manholes, and 20% of stormwater outfalls and ponds. Results of these inspections may trigger maintenance operations if it is required. The City also inspects all stockpiles, storage, and material handling areas quarterly to ensure they are managed appropriately. In 2022, all required inspections and maintenance were completed.

In 2018, City staff changed the method used for pond surveys to better understand sedimentation in the stormwater ponds. The method now used is similar to a bathymetric approach, where multiple

depth measurements are taken across a pond and the bottom of the pond is mapped with the help of computer aided drawing. This allows staff to better calculate volumes of sediment and pond capacity.

Stormwater Inspections and Maintenance			
Asset	Total	Inspected	% Inspected
Structural Stormwater BMPs	22	22	100
Outfalls	252	49	19
Ponds	62	13	21
Material Storage Yard	1	1	100

Record Retention and Reporting

The City of Red Wing summarizes all the results of SWPPP related inspections and activities in this annual report and the SWPPP Annual Report to the MPCA. The City also maintains records of inspection dates, findings, and responses. These records are in various electronic and hard copy states located on the City website, asset management software and in the offices of Environmental Services. All records will be made available upon request.

Industrial Stormwater Permits

In addition to the MS4 permit, the City of Red Wing also holds Industrial Stormwater Permits for areas of industrial activity owned by the City of Red Wing. These areas include: the Solid Waste Campus, the Little River Bulkhead, Colvill Marina, Ole Miss Marina, the Wastewater Treatment Plant, the Industrial Wastewater Pretreatment Plant, and the Goodhue Co/Red Wing Ash Landfill. These areas get special attention to prevent stormwater pollution that includes specific best management practices, inspections, and stormwater sampling. The Landfill was removed from our permits in 2020 due to its closure. All industrial stormwater permit activities were completed in accordance with permit requirements in 2022. More information about these permits can be found here:

<https://www.pca.state.mn.us/water/industrial-stormwater>

Evaluation of Minimum Control Measure

The Pollution Prevention and Good Housekeeping control measure was evaluated to ensure the measurable requirements were achieved. Measurable Requirements Achieved ☒ Yes ☐ No

Modifications and Improvements

Each year the program considers modification and improvements to increase its effectiveness. This control measure has been successful and no major modifications are planned at this time.

IMPAIRED WATERS

The City of Red Wing reviews all discharges from our MS4 system to impaired waters, as defined by the current USEPA approved 303(d) list. The SWPPP incorporates measures to assess the adequacy of the stormwater program to meet Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs).

Water Body	US EPA Approved Impairment
Bullard Creek	E. coli
Cannon River	E. coli, PCBs, Turbidity
Hay Creek	E. coli, Turbidity
Lake Pepin	Nutrient/Eutrophication
Mississippi River	Mercury, PCBs, Turbidity
Spring Creek	E. coli, Turbidity

The City of Red Wing's current SWPPP is adequate to meet the requirements of the completed TMDLs and WLAs. The SWPPP will be updated to meet new requirements as they are apportioned. It is expected that new actions may be required as we learn more about the status of Lake Pepin as an impaired water.

What water body impairments are associated with stormwater?

Lakes	nutrients (primarily phosphorus) and pathogens impair the lake for recreational use
Rivers/ streams	nutrients, sediment, chloride, pathogens, and temperature impair the river/stream for aquatic vegetation, recreation, and habitat
Wetlands	nutrients and sediment impair wetlands for habitat

Stormwater module 1: Overview of stormwater effects on water quality
7

The Mississippi River – Lake Pepin Tributaries Total Maximum Daily Load addressed the *E. coli* impairment for Bullard and Hay Creek within the Red Wing MS4 boundary. The following table shows the Wasteload allocation for the City of Red Wing. At this time, no load reductions are required by the City of Red Wing to meet the WLA stated in this TMDL.

Table 4.2. *E. coli* TMDL summaries.

		Flow Regime				
		VHigh	High	Mod	Low	VLow
Hay Creek TMDL Summary		Billions of Organisms/day				
Loading Capacity (TMDL)		102	80	73	65	53
Wasteload Allocation	Total WLA	9.3	7.3	6.7	5.9	4.8
	Red Wing MS4 (MS400235) 10.2%	9.3	7.3	6.7	5.9	4.8
Load Allocation		82.5	64.7	59.0	52.6	42.9
Margin of Safety		10.2	8.0	7.3	6.5	5.3
90 th Percentile Value from WQ Data		3406	1238	1416	222	190
Bullard Creek TMDL Summary		Billions of Organisms/day				
Loading Capacity (TMDL)		34	26	24	21	17
Wasteload Allocation	Total WLA	0.7	0.5	0.4	0.4	0.3
	Red Wing MS4 (MS400235) 2.3%	0.7	0.5	0.4	0.4	0.3
Load Allocation		29.9	22.9	21.2	18.5	15
Margin of Safety		3.4	2.6	2.4	2.1	1.7
90 th Percentile Value from WQ Data		NA	194	285	115	40

The City of Red Wing satisfies its WLA by using the following best management practices:

- Increasing the population with properly functioning sewage treatment systems (septic systems) within the City boundaries. City staff tracks the number of permits issued for septic systems each year and directs residents with failing systems to connect to the municipal sewer system.
- Ensuring proper management of biosolids application and remediation of sewer overflows or spills.
- Reducing the amount of stormwater runoff by mandating new construction or redevelopment over 1 acre capture and treat the first one inch of rainfall on new and existing impervious surface. Infiltration practices are preferred over other methods.
- Monitoring construction sites with construction stormwater permits to ensure compliance.
- Ordinances that limit activities along the river front to protect the natural land buffer along rivers and streams.
- Providing pet waste bags at City parks.

SWPPP MODIFICATIONS

In 2021, the City modified its SWPPP to comply with new permit requirements in the reissued MS4 permit. Since then, the City has been getting comfortable with implementing and maintaining these new requirements. There are no major modifications planned at this time.

To better suit our current workforce, most stormwater-related training has moved to a virtual format. This includes annual employee training. Videos were created to allow employees to complete the training at a time that works best for them.



SWPPP REPORTING

The MPCA is transitioning to a new reporting platform for stormwater activities and permit compliance. The City of Red Wing will be required to submit annual report activities for 2022 in 2024 when the new platform is available. This summary will be made available on the stormwater page on the City's website.



2023 STORMWATER ACTIVITIES

The City is always looking for new activities and input from citizens on what they would like to see in the SWPPP. Send an email to swppp@ci.red-wing.mn.us with your ideas!

Activity	Audience/Participants
4 th Grade Water Plant Tours	Burnside 4 th Graders
Rain Barrel Distribution with Restoration Project	Neal Street Ravine Residents
Adopt-A-Drain	Everyone!
Public Works Week Presentation	K-1 Students
Chloride Pollution Education	Everyone!