



# STORMWATER POLLUTION PREVENTION PLAN ANNUAL REPORT 2021

City of Red Wing

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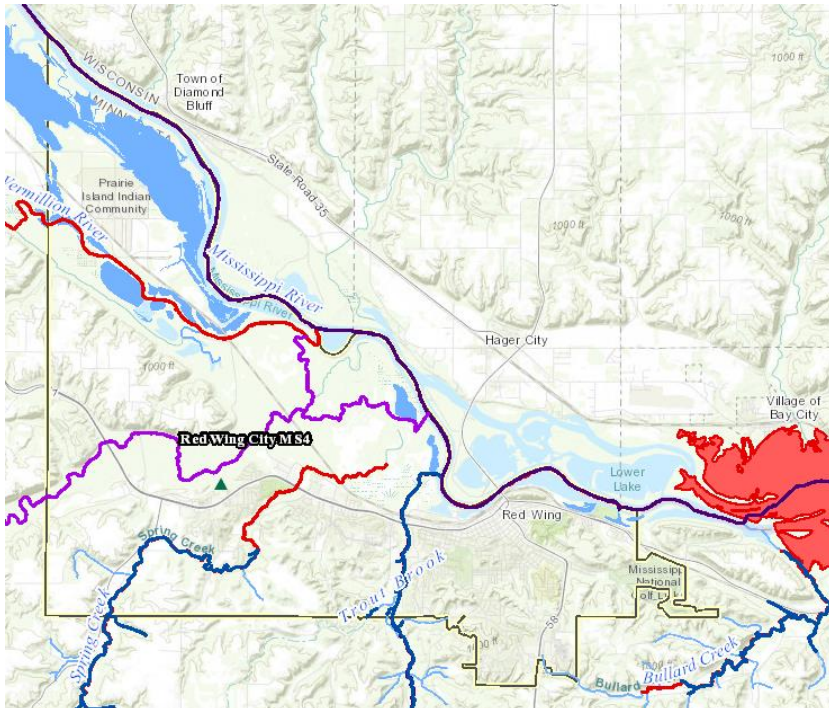
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# INTRODUCTION

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. Construction activities and yard waste were the high priority issue to be emphasized in 2020.

## 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.

Type	Topic	Location	Estimated Number Distributed/Audience
Post	Adopt-a-Drain Introduction	Facebook	1,675
Video	Adopt-a-Drain Video	Facebook	2,410
Video	Adopt-a-Drain Fall Video	Facebook/Twitter/Instagram	2,534
Website	Stormwater Webpage	Website	336
Video	Adopt-A-Drain	YouTube	76
Packets	“Erosion Control Requirements”: construction	Planning	8
Articles	Down the Drain, Stormwater Ponds, Adopt-A-Drain	City Beat	2273
Doorhanger	Illicit Discharge Detection and Elimination	Door hanging near affected areas	20
Video	Various Stormwater PSA's	Channel 6	2,100 minutes
Utility Bill Insert	Stormwater Pollution Prevention	Mailing	6,520

## Public Education Program

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
2/10/2021	Adopt-A-Drain launches in the City of Red Wing
3/8/2021	Presentation at the City Council Meeting
4/10/2021	Virtual Earth Week
8/6/2021	Booth at River City Days
8/9/2021	Presentation at the City Council Meeting
10/20/2021	Presentation to Youth Commission & Sustainability Commission

### 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, and AP Anderson Park. In 2021, more than 24,000 pet wastes bags were provided.

### Yard Waste Composting

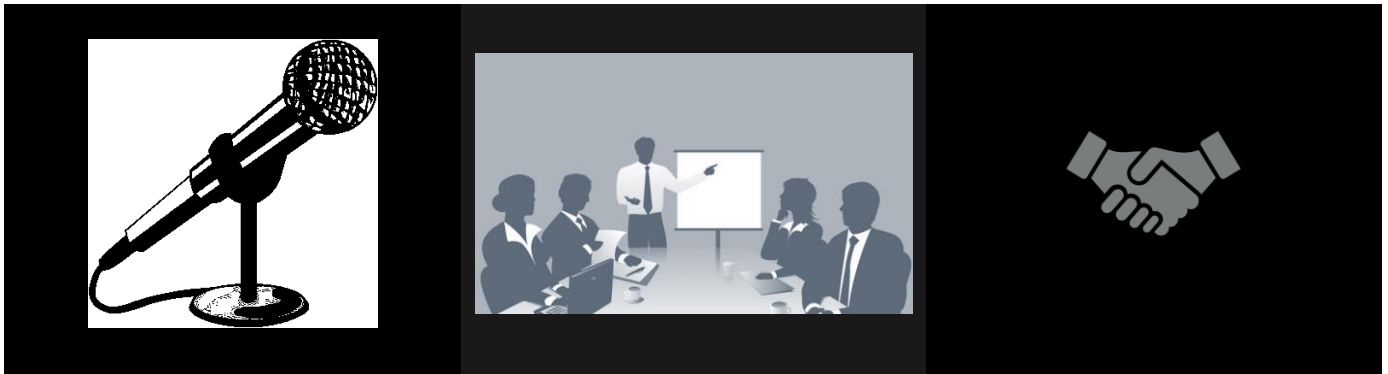
The City of Red Wing operates a yard composting facility at the Solid Waste Campus. Here residents can bring leaves and yard waste to dispose of for free. The yard waste is composted by city staff and residents can take the resulting compost for free also! This encourages residents to keep leaves and grass clippings out of city streets. In 2021, 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 March 8, 2021 to discuss the adequacy of the SWPPP and allow interested people to comment. Public meeting notice was published 30 days prior to the meeting on September 15th. The public meeting was held as part of the city council virtual meeting.



Red Wing's SWPPP was also presented to the Sustainability Commission on June 23, 2020 to discuss the new permit issues and members brainstormed ideas to comply with the new permit.

## Input and Opinion on the Adequacy of the SWPPP

City staff did not receive any comments on the SWPPP in 2020. 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](mailto:swppp@ci.red-wing.mn.us).

## Consider Public Input

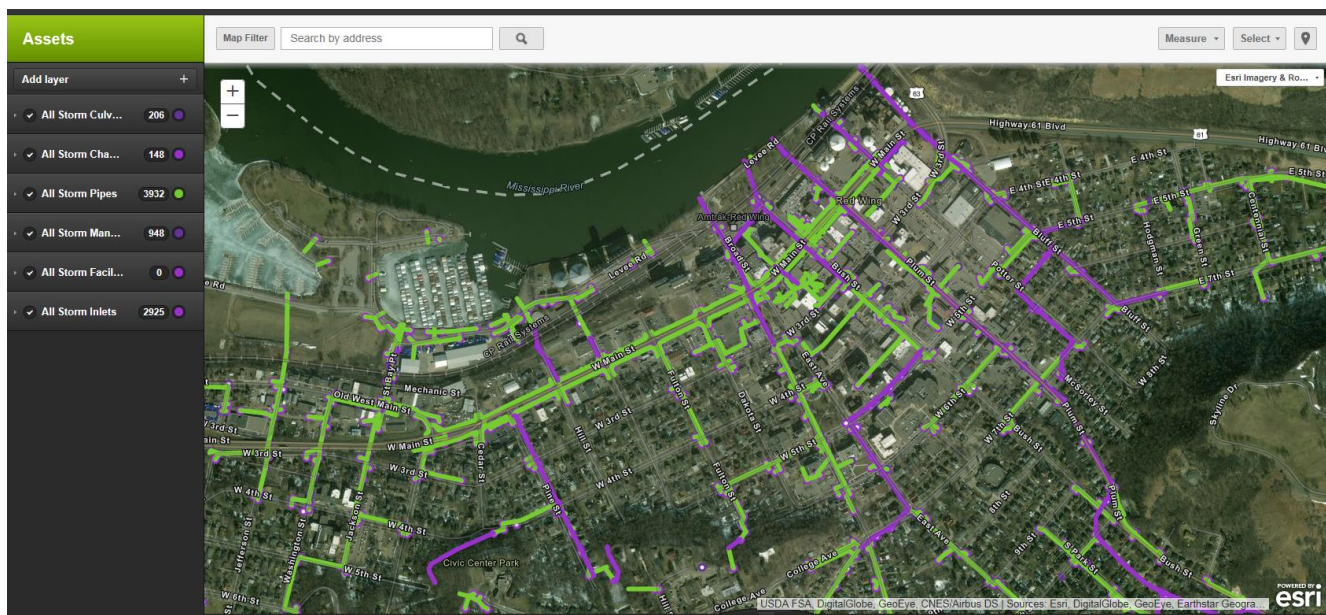
Input by concerned persons and groups will be reviewed by appropriate city staff in order to determine if the suggestions are relevant to the goals of the SWPPP and, if so, how they could be implemented.

# ILLICIT DISCHARGE DETECTION AND ELIMINATION

## 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 2020 there were 6 illicit discharges or spills detected. Two of these discharges was reported by the public and the other 4 were discovered by City staff. These illicit discharges initiated verbal warnings and one Notice of Violation. 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 absorbent 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 2020.

# CONSTRUCTION SITE RUNOFF CONTROL

## 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 2020, four site plans were reviewed and there were three 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 2020, 45 site inspections occurred by City staff, and specific enforcement action was taken to compel compliance with the construction stormwater management regulations. City staff also received weekly inspection reports from the Mississippi River Bridge Project. In 2020, City staff focused on working closely with contractors to achieve the stormwater goals by creating relationships and educating about expected objectives.

Enforcement Action	Number Issued
Verbal Warning	15
Notice of Violation	0
Stop Work Order	0





# POST CONSTRUCTION RUNOFF CONTROL

## 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 2020.

# POLLUTION PREVENTION & GOOD HOUSEKEEPING

## 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 2020, the employees viewed a video of these important stormwater topics. All seasonal workers in the City of Red Wing attended a Zoom presentation on May 26th. A meeting for street maintenance workers was held on November 19, 2020 to outline proper use of sand and salt in the winter months. Four 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 2020, 1,105 hours were spent sweeping and approximately 1,771 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 2020, 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.

In 2020, two stormwater ponds were dredged and repaired to improve function. Over 600 cubic yards of accumulated sediment and debris were removed from the Neal Street pond in February. Another pond off of Highway 58 has over 6,500 cubic yards of accumulated sediment removed!



Stormwater Inspections and Maintenance			
Asset	Total	Inspected	% Inspected
Structural Stormwater BMPs	24	24	100
Outfalls	252	30	12
Ponds	62	20	32
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 2020.

The permits for these sites fall under the MPCA Industrial Stormwater General Permit. This permit expires April 1, 2020. The permit renewal applications have been submitted for all industrial sites for the 2020-2025 MPCA Industrial Stormwater General Permit. The submittals included “No-Exposure” certification for Colvill Marina and the Goodhue Co/Red Wing Ash Landfill. More information about these permits can be found here: <https://www.pca.state.mn.us/water/industrial-stormwater>

# 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?

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

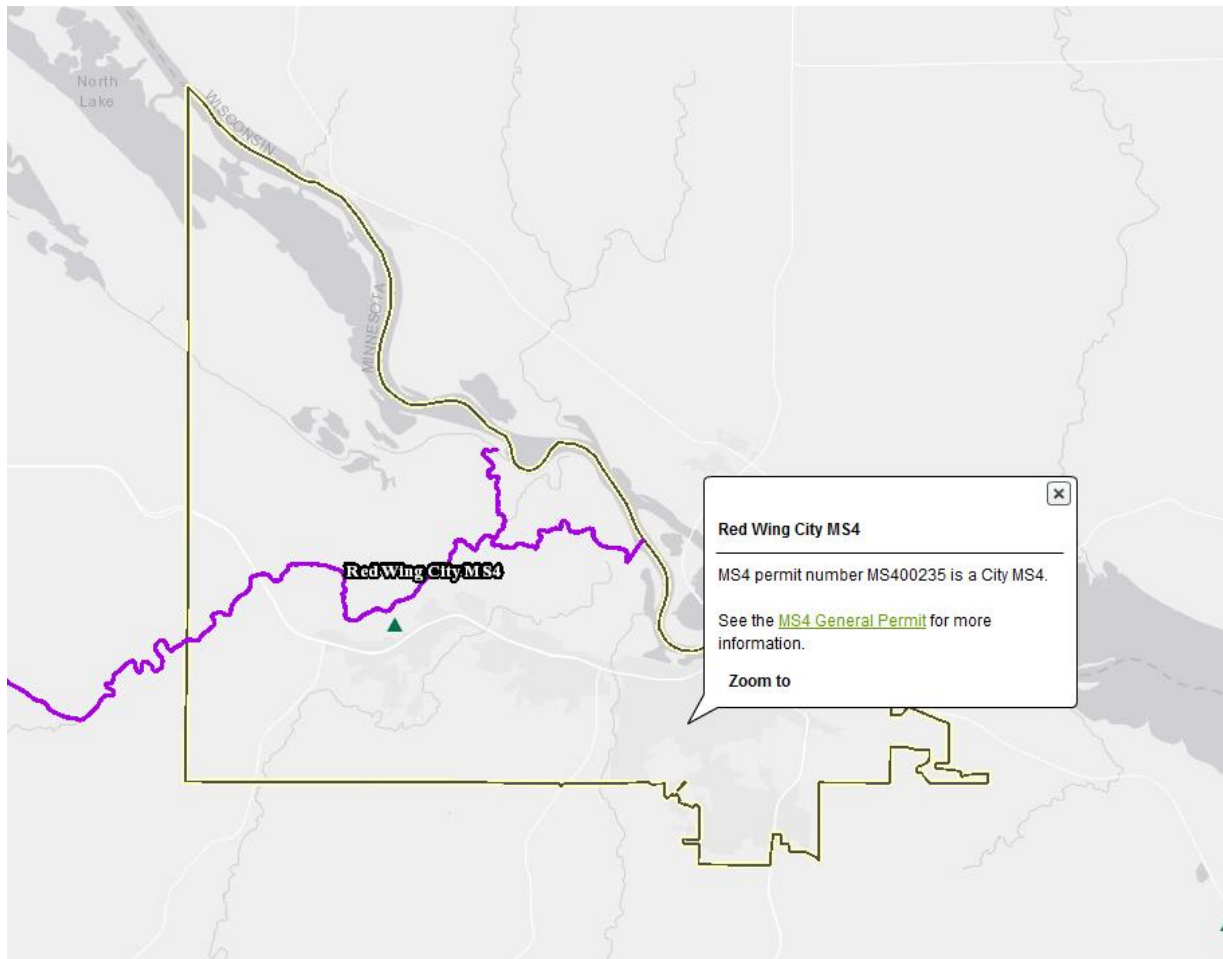
		Flow Regime				
		VHigh	High	Mod	Low	VLow
Hay Creek TMDL Summary		Billions of Organisms/day				
Loading Capacity (TMDL)		102	80	73	65	53
Wasteload Allocation	Total WLA	9.3	7.3	6.7	5.9	4.8
	Red Wing MS4 (MS400235) 10.2%	9.3	7.3	6.7	5.9	4.8
Load Allocation		82.5	64.7	59.0	52.6	42.9
Margin of Safety		10.2	8.0	7.3	6.5	5.3
90 <sup>th</sup> 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 <sup>th</sup> 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 over 1 acre capture and treat the first one inch of rainfall on new 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

The City did not modify its SWPPP in 2020. Large changes are expected in 2021 with the MPCA MS4 Permit reissuance.



## 2021 STORMWATER ACTIVITIES

The City of Red Wing's MS4 Stormwater Annual Report for 2020 will be submitted to the MPCA by June 30, 2021. The MPCA annual report and this summary will be made available on the stormwater page on the City's website.

The current general permit authorization to discharge stormwater from MS4s expired July 31, 2018. This is a five-year permit cycle. Part 1 of the application for permit reissuance was submitted in February 2018. This document contained requested contact and program management information for the stormwater participants at the City. Part 2 of the application will be submitted by April 15, 2021. This application confirms our intent to receive authorization to discharge stormwater under the NPDES MS4 General permit and provides information about the existing SWPPP and the TMDLs. Once the application is submitted, it will be on public notice for 30 days. The MPCA will issue permit coverage after any issues raised during the public comment period have been satisfied. The City of Red Wing then has 12 months to update the SWPPP to incorporate the new requirements.

Stormwater Goals in 2021
Update SWPPP to meet new permit requirements
Adopt-a-Drain!
Focus on smart salting use as a high priority issue
Explore areas for community participation
Enlist service groups for projects
Continue connections with partners such as, Cannon River Watershed Partnership, GCSWCD, Master Gardeners, Park Naturalists, Red Wing Conservation Club
Utilize social media tools
Increase public feedback about actions they would like to see in Red Wing's stormwater management
Meet with focus groups, such as the Sustainability Commission to guide stormwater activities
Integrate Red Wing 2040 Plan with the SWPPP