City of Saint Paul's

2019 Stormwater Permit Annual Report

Minnesota Pollution Control Agency

National Pollutant Discharge Elimination System

Permit No. MN 0061263

May 2020

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Background

The National Pollutant Discharge Elimination System (NPDES) program was created in 1990 by the United States Environmental Protection Agency to safeguard public waters through the regulation of the discharge of pollutants to surface waters including lakes, streams, wetlands and rivers. The Minnesota Pollution Control Agency (MPCA) is the local authority responsible for administering this program. Under this program, specific permits are issued to regulate different types of municipal, construction and industrial activities.

The MPCA issued the first Municipal Separate Storm Sewer System (MS4) NPDES Permit to the City of Saint Paul on December 1, 2000. The City's MS4 Permit was reissued on January 21, 2011, and again on July 12, 2018. The reissued permit requires submittal of a revised Stormwater Management Program (SWMP), which will be submitted to the MPCA with this Annual Report.

The Saint Paul SWMP was developed, and is administered by, the various City Departments that are responsible for permit activities. Included are the Public Works Department, Saint Paul Parks and Recreation Department and the Department of Safety and Inspection. These stakeholders are jointly responsible for the completion of the required permit submittals. The Department of Public Works provides program coordination. The Permit also requires public input on the development of the priorities and programs, and adoption by Council Resolution of the Annual Report.

This Report provides documentation of the activities conducted in 2019.

MS4 Permit Coordinator

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MCM 1: Public Education & Outreach

BMP 1.1: STORMWATER PUBLIC EDUCATION AND OUTREACH ACTIVITIES

Description

The City implements public education and outreach programs in accordance with the *PUBLIC EDUCATION AND OUTREACH WORK PLAN* (See Appendix) to increase the awareness of stormwater pollution impacts on waters of the state to encourage changes in public behavior to reduce impacts to receiving waters.

Assessment Process for Annual Reporting

- Quantities and descriptions of educational materials distributed and the number of visits by the public to **stormwater** education websites.
- A summary of the education and outreach activities held including dates of events.
- Any modifications made to the program as a result of the annual evaluation as described in Part III.C.1.b.(5).
- If the **Permittee** relied upon other organizations for some, or all, of its education and outreach program, include a summary of activities conducted by those other organizations.

2019 Activities

Public Education and Outreach activities are summarized in the Stormwater Permit Annual Report Appendix, and within the updated Stormwater Management Program Public Education and Outreach Work Plan.

MCM 2: Public Participation & Involvement

BMP 2.1: Encourage & Solicit Input from the Public

Description

Saint Paul citizens are actively engaged in many aspects of the City's governance, being involved through commissions, district councils, volunteer organizations and electronic communications. Other public involvement techniques include workshops, web page accessibility and outreach by elected officials. The objective of this program is to make the SWMP and related documents available to the public and to provide a process for public input in the development and implementation of the SWMP.

Assessment Process for Annual Reporting

- A summary of the written public input received on the **SWMP** and the **Permittee**'s response to the input as described in Part III.C.2.
- Any modifications made to the **SWMP** as a result of the input received during the public meeting.
- The date and location of the public meeting as described in Part III.C.2.a.
- A formal resolution from the **Permittee**'s governing body adopting the annual report and the **SWMP** as required in Part III.C.2.e. The resolution must be submitted to the **Agency** no later than August 30th of each year if not available at the time of annual report submittal.

2019 Activities

The Annual Report is a coordinated effort by various City Departments. Information in the Annual Report provides documentation of the activities conducted in the previous year.

The City holds a public meeting to provide an opportunity for public input regarding the Annual Report and Stormwater Management Program. A notice of the availability of these documents for review, and public comment, is sent to all Saint Paul neighborhood organizations, to the governmental entities that have jurisdiction over activities relating to stormwater management, and to other interested parties.

Once finalized, the Annual Report and updated Stormwater Management Program are also made available on the web site. All testimony presented at the public meeting, and all written comments received, are recorded and given due consideration. The public comments, response to comments and a copy of the council resolution adopting the Stormwater Permit Annual Report, and updated Stormwater Management Program, are submitted each year to the Minnesota Pollution Control Agency.

MCM 3: Illicit Discharge Detection & Elimination

BMP 3.1 PROHIBITED DISCHARGE MANAGEMENT PROGRAM

Description

The objective of this program is to effectively prohibit through ordinance or other regulatory mechanism and appropriate enforcement procedures, the introduction of non-stormwater discharges into the MS4.

Assessment Process for Annual Reporting

- The number of spills and **illicit discharge**s that occurred and a description of the response, containment, and cleanup of the spills and **illicit** discharges.
- The number of **illicit discharge** inspections and/or screening activities completed during the reporting year and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**s.
- Reports of alleged **illicit discharge**s received, including date(s) of the report(s), and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**(s).
- Sources of **illicit discharge**s, including a description and the responsible party if known.
- Identification of **outfall**s or other areas where **illicit discharge**s have been discovered and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**(s).
- A description of the education and outreach activities, implemented during the reporting year, to inform municipal employees, the public, and industry about reporting, responding to, and eliminating **illicit discharge**s.

2019 Activities

Spill Response

The Sewer Maintenance section of the Sewer Utility or the Saint Paul Fire Department personnel typically serve as the first responders to a spill event. The immediate goals of this response are safety, containment of the spill, recovery of hazardous materials and collection of data for use in assessment of site impacts. Recovery efforts can take several forms, but typically fall into two broad categories: recovery for disposal and the use of absorbents or other media to collect hazardous waste for disposal.

The life cycle of an event requires City personnel to work as a team, utilizing all available resources to protect residents, the environment and property. Each event is followed by a post-action debriefing to determine the cause of the event, to identify measures to improve the City's response, and to determine the means to limit future occurrences. Outside agencies and private emergency response contractors are incorporated as needed. Spills that fall within the minimum reporting requirements are reported to the Minnesota Pollution Control Agency (MPCA) Public Safety Duty Officer. For these spills, an Oil and Hazardous Materials Spill Data form must be

completed within 24 hours, or by the next business day. The completed forms are used to document the type of spill, as well as the response to the spill. The Sewer Utility follows the spill reporting policy, which is signed off on by employees as part of the annual policy review.

Prohibited Discharges

Pollution prevention and control is achieved through educational efforts, inspections and coordinated community outreach. These activities may include enforcement, pursuant to applicable City codes, and coordination with other regulatory agencies at the county, state and federal levels. Enforcement yields identification of the responsible party, documentation of clean-up activities, and efforts to reduce the flow of pollutants from illegal dumping and disposal. Complaints are received from the public, City staff and other government agencies. Department of Safety and Inspections and Public Works staff respond to reports of unauthorized discharges and illicit connections. The City adopted an ordinance and created a fact sheet (both included within the Appendix) in 2013 defining allowable discharges to the storm sewer system.

The City's Right of Way (ROW) inspectors responded to complaints resulting from utility contractors dewatering or saw cutting and construction site dewatering and tracking. Each year at the Utility Coordination Meeting requirements and BMPs are reviewed with contractors. A handout is provided, which is included within the Appendix. The ROW inspectors enforce these requirements in the field, respond to complaints and coordinate with DSI to address issues originating on private property.

Discharges addressed in 2019 are within the Appendix.

Staff Training

- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment control in the public Right-of-Way, Allowable Discharges to the Storm Sewer System, Best Management Practices, etc. Attendees are comprised of various municipal employees and utility businesses.
- In 2019, the Department of Safety and Inspections conducted Illicit Discharge Training for 32 staff. In 2019, various Sewer Utility personnel attended the Sewer Collection System Operators Conference conducted by the Minnesota Pollution Control Agency.
- In 2018, the Sewer Utility hired a Consultant to prepare an Illicit Discharge Detection and Elimination Field Guide for the Sewer Utility. Training on the Field Guide occurred in March 2018.

MCM 3: Illicit Discharge Detection & Elimination

BMP 3.2 STORM SEWER SYSTEM MAP & INVENTORY

Description

The objective of this program is to minimize pollutants in stormwater through the effective use of electronic tools for data storage, retrieval, display and analysis. An electronic inventory and map and electronic inventory is under development to support numerous stormwater management system responsibilities and activities, including operation and maintenance, design, hydrologic and hydraulic modeling, Gopher State One Call locates, capacity, condition and water quality studies, illicit discharge detection and management of spills.

Assessment Process for Annual Reporting

- A description and the date of the most recent update to the electronic storm sewer system inventory and map completed during the reporting year.

2019 Activities

Storm Drain System Infrastructure

Approximately 150 years ago, Saint Paul first constructed portions of a sewer system that today comprises 450 miles of storm sewers and over 26,000 catch basins. The system was designed to satisfy the City's obligation to provide reasonable drainage of stormwater and to prevent street flooding, which satisfied the City's responsibility to protect neighboring properties, allow for normal traffic flows, and prevent damage to streets, sidewalks and boulevards.

The Department of Public Works has a computer based asset and infrastructure management system. This system will includes both the storm and sanitary sewer networks. The Sewer Utility is in the process of converting its hand drawn sewer maps to an electronic format. All of the converted sewer data was checked for accuracy and is now going through a QA/QC process.

In 2019, a comprehensive map was updated that identifies BMP locations, and their contributing drainage areas, that Public Works operate. This map will be utilized to aid in spill response, maintenance, inspection, and locating.

Watershed and Storm Sewer Outfall Inventory

An inventory of Saint Paul's storm sewer outfalls is located in the Appendix. This inventory includes the outfall identification number, outfall name, watershed name, size of pipe and drainage area. The following information is provided in the Outfall Inventory found in the Appendix for each of the 23 watersheds in St. Paul: drainage area, land use types and distribution, population, percent impervious surface area, and the runoff coefficient. The following table shows the total number of discharge points to each water body in Saint Paul.

Discharge points to receiving waters

Receiving Water	Total Discharge Points
Bridal Veil Creek	1
Mississippi River	59
Upper Lake	1
Crosby Lake	3
Fairview North Pond	2
Lake Como	11
Loeb Lake	1
Lake Phalen	5
Beaver Lake	4
Suburban Pond	2
Little Pig's Eye Lake	1
Pig's Eye Lake	5
Battle Creek	11

Stormwater Ponds

A map showing the stormwater ponding areas in the City of Saint Paul is located in the Appendix. The Appendix also contains the tributary area and design capacity for each City ponding area and a list of ponding areas by watershed.

NPDES Permitted Facilities

Facilities in Saint Paul that are issued NPDES permits by the MPCA are found in Appendix.

Industrial Land Use

Industrial land uses may generate higher concentrations of hydrocarbons, trace metals, or toxicants than are found in typical stormwater runoff. Maps showing the areas of industrial land use in Saint Paul and potential pollutant source locations are included in the Appendix.

MCM 3: Illicit Discharge Detection & Elimination

BMP 3.3 DRY WEATHER FIELD SCREENING PROGRAM

Description

The objective of this program is to develop, and as necessary continue to develop, and implement a dry weather field screening program to detect and eliminate non-stormwater discharges, including illegal dumping, to the system. The City shall inspect each outfall at least once over the five-year term of the current permit for evidence of illicit discharges.

Assessment Process for Annual Reporting

- The number of **illicit discharge** inspections and/or screening activities completed during the reporting year and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**s.
- Identification of **outfall**s or other areas where **illicit discharge**s have been discovered and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**(s).
- A description of the education and outreach activities, implemented during the reporting year, to inform municipal employees, the public, and industry about reporting, responding to, and eliminating **illicit discharge**s.

2019 Activities

Detection and Removal Screening Program

The field screening program to detect and investigate contaminated flows in the storm drain system is part of the City's daily operations. Sewer Maintenance crews routinely inspect and clean storm drain structures throughout the City. In addition, inspections of flows that generate unusual odors, stains, and deposits are included in the annual outfall inspection program.

Any suspect flows are then reported to appropriate City staff for further investigation. These combined efforts result in an annual screening of more than 20% of City drainage areas.

The City conducts its own stormwater monitoring activities via a Consultant, and also coordinates with the Capitol Region Watershed District on comprehensive stormwater monitoring program in Saint Paul. The best avenue for a continued effective screening program in the City of Saint Paul, without duplication of services, is to continue to use current practices, and to explore the development of certain aspects of the program to improve enforcement results.

The City investigates prohibited discharges as part of its regular tunnel, outfall and pond inspection program. The City also investigates complaints and issues identified in the monitoring program. The Department of Safety and Inspections carries out enforcement on property code violations. Under Chapter 45 of City Code, the City is authorized to collect via assessment its cost of abating property-related health and safety problems when an owner has failed to perform

the work following notice by the City. The City may assess property owners to recover unpaid city charges.

Continue existing programs as outlined in the program overview, and continue to develop and improve documentation of program activities. GIS mapping will be implemented as a tool to support various activities. Information that is gained through the inspection program will be used to compile data on non-stormwater discharges, storage of hazardous materials, and activities or operations that may be potential water pollution point sources. The City will continue to investigate prohibited discharges as part of its regular tunnel, outfall and pond inspection program.

Standard Operating Procedures and Checklists

- The Parks Department uses a Spill Reporting form and instructions (See Appendix). Form is completed in the event of a spill if petroleum or hydraulic spills greater than five gallons, and other materials spill of any size. The Minnesota Duty Officer is notified, as required, in the event of a reported spill.
- The Parks Department and Public Works Department have Clean Water Policies which are distributed, reviewed, and signed by all field staff. (See Appendix)
- The Sewer Utility developed an Illicit Discharge Detection and elimination Field Guide 2018 to aid staff in investigating and responding to Illicit Discharges.
- In 2019, the Department of Safety and Inspections conducted Illicit Discharge Training for 32 staff.

MCM 3: Illicit Discharge Detection & Elimination

BMP 3.4 INDUSTRIAL ACTIVITIES MANAGEMENT PROGRAM

Description

The objective of this program is to minimize the discharge of pollutants from industrial activities by administering and enforcing ordinances, exercising municipal authority over activities with high potential for stormwater pollution, and providing information to assist the MPCA in carrying out its industrial permitting program.

Assessment Process for Annual Reporting

- Number of water and land pollution complaints.
- Number of discharge incidents reported to MPCA Industrial Permit Program.
- Industrial facilities inventoried.
- Stormwater hotspots inventoried.
- Number of discharges eliminated from industrial facilities.

2019 Activities

A map of the industrial land use areas in the City is included in the Appendix. Complaints in the ROW are handled by the Public Works ROW inpectors. Those that originate on private property are referred to DSI. The City coordinates with the MPCA Industrial Stormwater Program for sites that are permitted by the MPCA. Discharges addressed in 2019 can be found in the Appendix.

MCM 4: Construction Site Erosion & Sediment Control

BMP 4.1: DEVELOPMENT & REDEVELOPMENT CONTROL PROGRAM

Description

The objective of this program is to minimize the discharge of pollutants from construction sites disturbing one acre or more by requiring erosion prevention and sediment control measures. Chapter 52 of the Saint Paul Code of Ordinances requires projects disturbing one acre or more to provide for erosion and sediment control during construction. Sites one or more acres in size are also required to obtain NPDES General Construction Permits from the Minnesota Pollution Control Agency, the Capitol Region Watershed District and the Ramsey-Washington Metro Watershed District.

This program encompasses a variety of individuals responsible for water quality concerns from construction activities. These individuals include designers of erosion control plans; staff responsible for plan review; and, field inspectors with municipal authority over contractors.

Assessment Process for Annual Reporting

- Report on number of site plans reviewed and approved.
- Report on number of site erosion and sediment control inspections recorded.
- Report on development and implementation of written procedures for site plan review and erosion and sediment control inspections.
- Report on number of non-compliance incidents that were identified and addressed by municipal inspectors.
- Report on development of citizen complaint process and number of citizen complaints received and addressed.
- Report on number of staff trained related to construction site erosion and sediment control.

2019 Activities

Program Overview

Saint Paul Code of Ordinances, Part II – Legislative Code, Title VI - Building and Housing, Chapter 52 Stormwater Runoff contains erosion and sediment control requirements, and stormwater management requirements for new developments and other land-disturbing construction activities. Construction activities and new development projects are reviewed through the City's Site Plan Review process. This review provides comments that are integrated into a final plan submittal that is subsequently routed to the City's Departments for approval. The Department of Safety and Inspections reviews projects for compliance with the erosion & sediment control requirements and water quality requirements. The Sewer Utility reviews projects for rate control, flood protection and capacity issues.

Site Plan Review

DSI and Public Works staff provide a detailed review of site plans, and track process to identify stormwater management opportunities. Additionally, DSI and Public Works staff provide a review of all site plans from a sustainable water quality perspective. During 2019, City Departments received 78 site plan applications, and issued final approval, with the appropriate permits issued, on 38. Continued attention to erosion and sediment control plan submittals, along with increased awareness in the industry, provided for better compliance during site inspections.

Requirements

The ordinance addresses development sites, utility excavations, demolition projects and all other land disturbing activities of 1 acre or more. For disturbances less than 1 acre, erosion and sediment control practices must be installed and inspected before land disturbing activities begin. Sites disturbing more than 10,000 square feet need to submit an erosion and sediment control plan as part of the City's Site Plan Review process. City Zoning Code Chapter 33 requires a grading permit for the placement, movement and removal of fifty cubic yards of fill and to incorporate stabilization methods on soil stockpiles greater than 10 cubic yards, if left for more than 10 days.

Inspection and Enforcement

Ongoing site inspections are performed by Public Works ROW and DSI inspectors. In 2019, DSI inspectors conducted 103 erosion control inspections at various new and redevelopment sites.

Inspectors may issue a warning notice citation or a "Stop Work Order". Failure of the permittee to comply with the ordinance will constitute a violation and will be considered a nuisance pursuant to the laws of the State of Minnesota. If there is a demonstrated failure to comply, the City reserves the right to terminate a permit at any time. The City then has the option of proceeding with the necessary restoration of the site. This restoration would be done at the expense of the owner/permittee. Increased awareness of the ordinance, improved plan submittals, and a continued compliance based inspection program resulted in a continued rise in compliance. Inspections were coordinated with the Capitol Region and Ramsey-Washington Metro Watershed Districts.

New public and private developments and other projects that disturb one acre or more will be inspected for erosion and sediment control. This effort will lead to a continued awareness of the problems associated with construction site sediment. This will also result in a continuing increase in the overall rate of compliance citywide. The City will continue to study options to increase compliance, and to help limit the amount of erosion and sediment loss associated with construction projects.

Standard Operating Procedures and Checklists

The City of Saint Paul utilizes standard forms for both public and private construction sites. The standard form utilized for documenting field inspections on private projects is found in the

Appendix. The forms supplement a database which tracks multiple levels of information including inspections for erosion control. The City has developed the following standard operating procedures (SOPs) and checklists for Erosion and Sediment Control (ESC) on public and private construction sites:

- The City of Saint Paul utilizes standard forms for both public and private construction sites.
- Public Works Right-of-Way Division uses a form when ROW inspectors inspect Utility Installation work. (See Appendix.)
- In 2018, DSI revised the Site Plan Erosion and Sediment Control Review Procedure. City staff will continue to develop performance measures and to improve data collection, tracking and analysis. The City will also pursue means of measuring and understanding water quality impacts.
- Erosion control plans and inspections are tracked in the City's AMANDA system.
- Handouts and worksheets are distributed to all relevant applicants.

Staff Training

- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment control in the public Right-of-Way, etc. Attendees are comprised of various municipal employees and utility businesses.
- City of Saint Paul inspectors are trained and certified through the University of Minnesota's Erosion and Stormwater Management Certification Program. This includes Department of Public Works Street Construction inspectors, Public Works ROW inspectors, Department of Safety and Inspections Building inspectors and Parks Environmental Services staff. The certification includes a recertification component within a 3-year period, which ensures training stays current with techniques and regulations.

MCM 4: Construction Site Erosion & Sediment Control

BMP 4.2 MUNICPAL CONTROL PROGRAM

Description

The objective of this program is to minimize the discharge of pollutants from construction sites disturbing 1 acre or more carried out by the City by requiring erosion and sediment control measures. Sites one or more acres in size are required to get NPDES General Construction Permits from the Minnesota Pollution Control Agency, the Capitol Region Watershed District and the Ramsey-Washington Metro Watershed District.

This program encompasses a variety of individuals responsible for water quality concerns from construction activities. These individuals include designers of erosion control plans, staff responsible for plan review and field inspectors.

Assessment Process for Annual Reporting

- The number of construction stormwater complaints received and the responses to those complaints.
- The number of site inspections completed and a summary of inspection findings.
- The number of violations of the Permitee regulatory mechanism(s) for construction site stormwater runoff control and the types of enforcement response procedures utilized.
- The title of construction stormwater training attended by Permitee staff.

2019 Activities

Non-Linear, municipal site projects go through the site plan review process and are inspected by the building inspectors for erosion and sediment control. Please see the description of this program in BMP 4.1. The standard forms utilized for documenting field inspections for street reconstruction projects is intended to be handwritten in the field and included in the project file. Staff started using the forms in 2011. During 2019, Public Works Construction inspectors continued to work with internal forces and watershed district staff on erosion and sediment control compliance.

Staff Training

- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment control in the public Right-of-Way, etc. Attendees are comprised of various municipal employees and utility businesses.
- City of Saint Paul inspectors are trained and certified through the University of Minnesota's Erosion and Stormwater Management Certification Program. This includes Department of Public Works Street Construction inspectors, Public Works ROW inspectors, Department of Safety and Inspections Building inspectors and Parks

Environmental Services staff. The certification includes a recertification component within a 3-year period, which ensures training stays current with techniques and regulations.

MCM 5: Post-Construction Stormwater Management

BMP 5.1: DEVELOPMENT & REDEVELOPMENT MITIGATION PROGRAM

Description

The objective of this program is to minimize the post-construction discharge of pollutants and stormwater runoff volume from construction projects disturbing one acre or more. Chapter 52 of the Saint Paul Code of Ordinances requires projects disturbing one acre or more to provide post-construction stormwater management. Sites one or more acres in size are also required to obtain NPDES General Construction Permits from the Minnesota Pollution Control Agency, the Capitol Region Watershed District and the Ramsey-Washington Metro Watershed District.

Projects are reviewed through the City's site plan review process, which is facilitated by the Department of Safety and Inspections. The Site Plan Review Committee is made up of staff from various departments including the PW Sewer Utility, Saint Paul Regional Water Services, PW Traffic Division, Zoning and Fire & Safety. Building permits are not issued until site plan review approval is formally attained.

Assessment Process for Annual Reporting

- Narrative on number of projects reviewed, number of projects approved, number and type of structural BMPs constructed or installed.

2019 Activities

Ongoing Stormwater Management

Redevelopment of existing sites provides an opportunity to lessen the impacts of urbanization on the Mississippi River and other Saint Paul water resources. During 2019, Stormwater Best Management Practices (BMPs) were installed on sites reviewed through the Site Plan Review process. BMP types that were constructed include:

- Rain gardens
- Pervious pavement
- Infiltration areas
- Stormwater ponds
- Underground infiltration/filtration and detention facilities

Plan Review

Stormwater management plans are required for all construction projects, which disturb one acre or more of land. These plans are reviewed through the Site Plan review process and approved by the Department of Safety and Inspections and the Saint Paul Public Works Sewer Utility. Sites disturbing less than one acre are also required to provide runoff rate control, if the project disturbs greater the 10,000 square feet. In addition, sites under one acre are encouraged to incorporate green infrastructure stormwater BMPs into their design as a means of satisfying other city codes, such as parking requirements. The City updated its Off-Street Parking Code to

include stormwater landscaping requirements in June of 2010. In July of 2010, the City began implementation of the green building policy requirements for city building projects and private projects receiving more than $200,000 in City funding to facilitate design and construction of stormwater quality practices.

Staff Training

- City staff from multiple departments attended the Minnesota Water Resources Conference.

MCM 5: Post-Construction Stormwater Management

BMP 5.2 COMPLIANCE PROGRAM for PRIVATE SITE CONTROLS

Description

The objective of this program is to implement a program for maintenance, inspection, record keeping and reporting of private stormwater devices constructed in accordance with the City's requirements.

Assessment Process for Annual Reporting

- Narrative on development of procedures.
- Number of new listings entered for privately owned BMPs.
- Once procedures are implemented, identify percent compliance with submittal of compliance reporting documents.

2019 Activities

City ordinance requires the design to minimize the need of maintenance and to provide access for equipment and personnel. The facilities must have a plan of operation and maintenance that ensures effective removal of pollutants. The ordinance also allows the City right of entry and inspection. In 2015, the City began a comprehensive review of its stormwater policies. In 2016, the City entered into a contract to update the Local Surface Water Management Plan. As a part of this planning effort, various ordinances will be analyzed and revisions proposed. This will assist in future planning to meet the identified Proposed Activities and Implementation Schedule. The City coordinates with the CRWD and RWMWD in the development of a BMP database and procedures to ensure that private BMPs are maintained. The City's Local Surface Water Management Plan was adopted by City Council in 2019.

MCM 5: Post-Construction Stormwater Management

BMP 5.3 MUNICIPAL MITIGATION PROGRAM

Description

The stormwater management objective of this practice is to reduce the discharge of pollutants through the proper planning, design, and construction management of projects carried out by the City.

Assessment Process for Annual Reporting

- Inventory of new Stormwater Management Practices installed with City capital improvement projects.

2019 Activities

- ***Public Works Projects***
  - Wheelock Parkway Phase IV: Public Works installed a subsurface infiltration trench ($280,000).
  - Fairview: Public Works installed a subsurface infiltration trench ($80,000).
  - Summit Avenue Bridge: Public Works installed a subsurface filtration trench ($280,000).
  - Sackett Pond: Public Works furthered the design phase of the Sackett Pond retrofit with iron-enhanced sand filtration (Construction Costs TBD).
  - Bush-Desoto Pond: Public Works initiated a feasibility study for a pond expansion/retrofit (Construction Costs TBD).

- ***Parks and Recreation Projects***
  - Sylvan Park – 3 filtration basins were installed as part of the Sylvan Park Improvements Project that included the construction of a new play area and artificial Turf Field. Water captured by the Artificial turf field and filtration basins is directed through engineered media to treat the water prior to entering the storm sewer system.
  - Swede Hollow – used a $ 144,165.00 Capitol Region Watershed District Special Grant for stormwater improvements in Swede Hollow. The improvements include replacement of two outlet structures at each end of the lower pond, dredging of the lower pond, and harvesting of water from a hillside seep. These improvements were implemented to improve water quality, wildlife habitat, and park user's safety.
  - Lilydale Regional Park–Used approximately $ 100,000.000 of the budget surplus of the BWSR Disaster Recovery Assistance Program grant to stabilize the channel below the lower falls and reshape and restore primary and secondary channels downstream of the Brickyard Trail.

- Midway Peace Park – Integrated stormwater system captures run-off from 50% of the adjacent parking lot. Two infiltration basins and a runnel-weir system with cistern are under construction, and expected to be operational mid-2020. The upper and lower basin combined provide 5,700 cubic feet of storage. Between the two basins is a buried concrete cistern with 1,200 gallon capacity. This cistern is connected to a recirculation pump and a unique cascading runnel-weir system. The cistern has sufficient capacity to last about 3 weeks if there are no storm events to re-charge the system.
- Received 1,740 hours of in-kind labor from Conservation Corps Minnesota for installation and maintenance of stormwater best management practices in Saint Paul. Funding was made possible through the Legacy Amendment.
- Received a $116,100 Conservation Partners Legacy Grant to enhance 30 acres of forest and prairie habitat at Highwood Nature Preserve and Henry Park to reduce erosion, keep water on the land, and improve wildlife habitat.
- Planted one acre of prairie at Cherokee Regional Park.

- ***City-Partner Collaborative Efforts***
  - Trout Brook Lift Station: Parks and Recreation, Public Works, and Capitol Region Watershed District began installation of a Storm Lift Station to deliver additional flow to Trout Brook Nature Sanctuary ($1.3 Million).
  - Cherokee Heights Ravine Stabilization: Public Works, Lower Mississippi River WMO, West Saint Paul, and Mendota Heights participated in the design and construction of the Ravine Stabilization Project for Cherokee Heights ($470,000).
  - Cherokee Heights Water Quality Improvements: Public Works, Lower Mississippi River WMO, West Saint Paul, and Mendota Heights participated in the design and construction of two Hydrodynamic Separators ($285,000).
  - Como Lake In-lake Loading Analysis: Parks and Recreation, Public Works, Capitol Region Watershed District, MNDNR, BWSR, Ramsey County, etc. participated in an In-lake Loading Assessment for Como Lake.
  - Como Park Stormwater Master Plan: Parks and Recreation, Public Works, and Capitol Region Watershed District participated in the initial development of a Como Park Stormwater Master Plan to assist in planning water quality improvements near Como Lake.

Staff Training

- City staff from multiple departments attended the Minnesota Water Resources Conference.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.1: STORM SEWER SYSTEM OPERATION & MAINTENANCE

Description

The objective of this program is to minimize the discharge of pollutants through proper and cost effective operation and maintenance of the City's storm sewer system. General operations and maintenance efforts include inspections, cleaning, repairs, rehabilitation and reconstruction.

The City's stormwater system includes 450 miles of storm sewers, 28 ponding areas, 4 lift stations, numerous water quality best management practices and over 26,000 catch basins. The Sewer Maintenance section allocates substantial resources to cleaning, inspecting and maintaining the City's stormwater system. All installed stormwater facilities are maintained and operated in accordance with adopted policies and ordinances. All storm sewer pipes are cleaned and inspected in advance of City street reconstruction projects. Where defects are observed, repairs are made at the time of discovery or during the reconstruction project. The City also regularly inspects, cleans and maintains stormwater ponding areas. Storm sewer tunnels are inspected every two years.

In 1995, the City completed a ten-year sewer separation program by constructing 189 miles of storm sewer and 12 miles of sanitary sewer (some combined sewer was converted to storm sewer). In 1997, the City began a multi-year rehabilitation program for its storm and sanitary sewer system. The Sewer Utility complies with MnDOT's Standard Specifications for Construction, and has its own set of Standard Plates.

Assessment Process for Annual Reporting

- Report on storm sewer and tunnel repair and rehabilitation projects.
- Report on miles of storm sewers and tunnels assessed, miles of storm sewers and tunnels cleaned and amount of material removed.
- Report on development of standard operating procedures.
- Narrative of training activities including number of staff trained and types of training conducted.

2019 Activities

Phalen Creek Storm Tunnel System

The Phalen Creek Storm Tunnel System was originally constructed in the 1800s. The tunnel system is comprised of varying types of construction (brick, granite blocks, corrugated metal pipe etc.). In 2016, a multi-phase rehabilitation effort was initiated to address deficiencies in the ceiling, walls and invert of the tunnel system. Construction Cost for Phase I of the Phalen Creek Storm Tunnel System Rehabilitation is $3.3 Million. Rehabilitation continued during Phase II, in

2017, with a construction cost of $2.3 Million. In 2018, the Final Phase was initiated. Completion of the Final Phase was in Spring 2019 at a construction cost of $2.1 Million.

East Kittsondale Storm Tunnel System

The East and West Kittsondale Storm Tunnel Systems were originally constructed in the 1920s and 1930s. The 4.3 mile long tunnel systems are comprised of cast in place concrete through varying geologic formations (Glacial Till, Decorah Shale, Platteville Limestone, Glenwood Shale and St. Peter Sandstone). In 2019, a multi-phase rehabilitation effort was initiated to address insufficient access and deficiencies in the concrete ceiling, walls and invert of the tunnel systems. The estimated Construction Cost for Phase I of the Kittsondale Storm Tunnel System Rehabilitation is $1.9 Million.

Pump Stations

The City has five stormwater flood control pump stations that are located along the Mississippi River. These pump stations provide interior drainage during flood events on the Mississippi River. In 2019, an elongated river flooding event required the operation of these pump stations. The stormwater flood control pump stations are inspected and operated twice per year. All of the stations are connected to the City's Supervisory Control and Data Acquisition system.

Broadway Pump Station

In 2018, the Sewer Utility embarked on an upgrade to the Broadway Sanitary Pump Station, which added a stormwater flood control pump station. The stormwater flood control pump station was installed to help mitigate temporary pumping operations required during a river flood scenario. Other improvements included the installation of a natural gas back-up generator. The project was completed in 2019 at a project cost of $1.6 Million.

Storm Sewer Inspection, Cleaning & Rehabilitation

- Montreal-Woodlawn Televised Inspection: 72,000 L.F. of Storm Sewer ($77,000)
- Cleveland-Youngman Televised Inspection: 66,000 L.F. of Storm Sewer ($91,000)
- Snelling-Juno Televised Inspection: 117,000 L.F. of Storm Sewer ($117,000)
- Sewer Maintenance Televised Inspection: 14,000 L.F. of Storm Sewer ($119,000; combined with cleaning cost)
- Sewer Maintenance Cleaning: 5,200 L.F. of Storm Sewer

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.2: CATCH BASIN/MANHOLE OPERATION & MAINTENANCE

Description

The objective of this program is to minimize the discharge of pollutants through the proper operation and maintenance of the MS4 system's catch basins and manholes. Catch basins are structures located along the city's street system that provide entrance of stormwater runoff into the storm sewer system.

Assessment Process for Annual Reporting

- Report on number of catch basins and manholes cleaned and/or repaired and quantity of material removed.
- Report on implementation of the catch basin sump management program.

Catch Basins

A catch basin is an inlet to the storm drain system. A field survey of the City's catch basins using GPS equipment located all city owned catch basins. The total number of catch basins inventoried was 26,200. As part of the City's Saint Paul Street Vitality Program (SPSVP), existing catch basins within a street reconstruction project area are replaced with new catch basins. Cleaning catch basins, while ensuring proper runoff conveyance from City streets, also removes accumulated sediments, trash and debris. Catch basins that are reported as plugged or damaged are given a priority for repair and cleaning. Sewer Maintenance has set a goal of cleaning 2,000 catch basins per year. Augmenting this effort is the street sweeping program, carried out by the Street Maintenance Division. The street sweeping program targets the pick-up of street sediment, debris and leaves prior to their reaching catch basins.

2019 Activities

- Catch Basin Maintenance ($550,000)
  - Inspected: 691
  - Cleaned: 2,803
  - Repaired: 393
- Manhole Maintenance ($115,000)
  - Inspected: 387
  - Cleaned: 452
  - Repaired: 245

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.3: OUTFALL OPERATION & MAINTENANCE

Description

The objective of this program is to minimize the discharge of pollutants through the proper operation and maintenance of outfalls from the MS4 system to receiving water bodies.

Assessment Process for Annual Reporting

- A brief description of all **outfall** inspection findings including any improvement projects completed at the **outfall** locations.

2019 Activities

Storm Drain Outfalls

A storm drain outfall is the point where the storm sewer system discharges to receiving waters. Outfalls are inspected on a 5-year schedule. Outfall inspections include an evaluation of the general condition of structure, determination of significant erosion and identification of any non-stormwater discharges. When indications of non-stormwater discharges are observed, they are reported to the appropriate City staff for follow-up investigation and resolution and reported to the Minnesota Duty Officer, as required. Any identified structural repairs or maintenance work is prioritized and scheduled within the constraints of available personnel, funding and coordination with other essential operations. All of the Mississippi River outfalls were inspected in 2013, and in 2019 the following outfalls were inspected:

Mississippi River: 120
Upper Crosby Lake: 8
Crosby Lake: 4
Crosby Pond: 5

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.4: STORMWATER POND/STRUCTURAL POLLUTION CONTROL DEVICE OPERATION & MAINTENANCE

Description

The objective of this program is to minimize the discharge of pollutants through the proper operation and maintenance of stormwater ponds and water quality devices. Stormwater ponds, filtration/infiltration areas, and structural controls are water quality devices that manage stormwater runoff. General operations and maintenance efforts include assessment and maintenance of the functionality of stormwater ponds and water quality devices.

Assessment Process for Annual Reporting

- Report on number of stormwater ponds and structural pollution control devices inspected, assessed and cleaned, by category. Include date of inspection, date and results of assessment, antecedent weather conditions and nature of repairs.

2019 Activities

Stormwater Ponds

Saint Paul's stormwater ponding areas are constructed to collect and detain flows from storm events and in some cases to also improve water quality. These ponds are designed to reduce peak flow rates in downstream storm sewers. A map showing the stormwater ponding areas in the City of Saint Paul is found in the Appendix. The Appendix also contains the tributary area and design capacity for each of the City's ponding areas and a list of stormwater ponding areas by watershed. The City's stormwater ponding areas are inspected by Sewer Maintenance staff after major rainfall events. Routine maintenance is completed as needed based on the inspection results.

The City implemented a program to evaluate its ponding areas for major sediment removal in 2002. This program involves an initial inspection, prioritization, survey, timber removal, sediment removal and inlet/outlet reconstruction. Major sediment removal took place in a majority of the City's ponds in the winters of 2002/2003, 2003/2004, 2013/2014, and 2017/2018. The estimated cycle for sediment removal from ponding areas is 20 years. Projects included re-installation of rip rap at inlet and outlet structures and vegetation restoration by seeding and erosion control blankets. Sediment was tested and disposed of in accordance with state guidelines.

In 2019 Suburban Pond received major sediment and debris removal with significant site restoration and riprap replacement. This was a collaborative effort between the City of St. Paul, Ramsey County, and RWMWD. Approximately 1,200 cubic yards of MPCA regulated material was removed along with the replacement of 90 tons of riprap with geotextile filters ($111,000).

Structural Pollution Control Devices

The city constructs water quality and volume control BMPs as required by the MPCA Construction Permit and Watershed District Rules. Since 2006, the City has constructed BMPs, including infiltration trenches and rain gardens. In 2015, an inventory of constructed BMPs was developed and entered into the City's asset management system. BMPs will be added each year once as-builts are received. The BMPs are programmed to be cleaned annually, beginning in 2015.

As part of the Water Quality and Quantity Monitoring Program, a maintenance inspection is conducted on each of the BMPs that are monitored. This inspection includes documentation of sediment depth in the pre-treatment device, sediment depth in the infiltration gallery, depth of standing water in the infiltration gallery and observation notes.

Staff Training

In 2019, a Sewer Utility employee attended Stormwater BMP Maintenance Certification Training conducted by the University of Minnesota Erosion and Stormwater Management Certification Program.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.5: HANDLING & DISPOSAL of REMOVED MATERIALS

Description

The objective of this stormwater management program is to minimize the discharge of pollutants through proper handling of stored and stockpiled materials such as those removed from the storm sewer system.

Assessment Process for Annual Reporting

- By categories shown in BMP Sheet 6.1.4, report estimated annual total mass (pounds) removed, characterization and destination(s) of material removed.

Program Overview

Material is collected from catch basin sumps, the storm sewer system, ponding areas and water quality BMPs. Removed substances are screened for visual or olfactory indications of contamination. Representative samples are selected for an environmental analysis. Contaminated substances are disposed of in a landfill or another site that is approved by the Minnesota Pollution Control Agency. During cleaning operations, sediment control measures are applied as needed to prevent removed material from re-entering the storm drain system.

2019 Activities

- Material removed from stormwater ponds, BMPs and catch basins by Sewer Utility: 921 tons ($23,000).

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.6 STREET SWEEPING PROGRAM

Description

The objective of this program is to minimize the discharge of pollutants to the storm sewer system and receiving waterbodies by removing leaf litter, sediment and debris from streets and gutters before the materials and the pollutants attached to them can be washed into storm drain inlets. The other objectives of the street sweeping program are to protect public health and safety, and to improve cleanliness and livability. The program is divided into several categories, that vary in frequency and work practices, to systematically address the approximately 744 miles of residential streets, 127 miles of arterial streets and the city's approximately 330 miles of alleys. They can be described by two general programs: Spring and Fall Citywide comprehensive sweeping programs, and general sweeping activities outside of those two major activities.

Assessment Process for Annual Reporting

- Date of Spring and Fall residential street sweeping activities
- Approximate amount of material removed by street sweeping activities

2019 Activities

Street Sweeping

The City of Saint Paul conducts a street and alley cleaning program to promote the health and welfare of its citizens and to reduce the amount of pollutants to receiving waters from stormwater discharges. Sweeping is a major operation for the Street Maintenance Division and is done during the spring, summer and fall. Elgin Pelican mechanical sweepers handle the vast majority of the sweeping. An Elgin Crosswind regenerative air sweeper is utilized downtown almost every weekday.

Residential street spring and fall sweeping were completed on May 9, 2019 and November 18, 2019, respectively. The primary material swept in the spring is debris from winter months. Fall sweeping occurred October 23, 2019-November 18, 2019. Typically, the fall sweep is timed so that a majority of the leaves are down and enough time is allowed to sweep all Saint Paul streets before the first snow. Currently, the wide variety of trees with varying leaf drop times makes it impossible to wait for all of the leaves to drop. To compensate for this, touch up sweeping continues most years through November and early December. In the interest of continued improvement to our sweeping program, workers attend training and best management practices are implemented.

Street Sweeping Operations

Streets and alleys are divided into classes, each of which receives a different level of service as defined below:

Class I-A & B Downtown or Loop streets
Downtown or loop streets are within the following boundaries: Kellogg on the south, 12th on the north, Broadway on the east and Main on the west. These streets are swept approximately two times per week during the spring, summer, fall and winter as weather allows. All routine maintenance, including patching and repairing of street surfaces, is performed on an as-needed basis.

Class II - Outlying Commercial and Arterial Streets
These streets, which have business or commercial properties fronting on them, are the City's major arteries. They have heavy volumes of both vehicular and pedestrian traffic. Typical examples are University, Snelling, West 7th, East 7th, Rice, Payne, Arcade, Summit and Grand. Class II streets are typically swept or cleaned six to ten times annually on the following schedule: every two weeks in October and November for fall cleanup and every 3 to 6 weeks in April through September for Spring cleanup, litter, tree debris and sediment cleanup. Occasional winter sweeping is done if weather permits, and there are special events. All routine maintenance, including patching and repairing of street surfaces, is done on a scheduled or as-needed basis. In 2016, Class II maintenance priorities were shifted from sweeping to patching and paving operations. The result of this shift in operations was less frequent sweeping between the spring and fall sweeps.

Class III - Residential Streets
In the spring, all residential streets, including oiled, paved and intermediate streets, receive a thorough sweeping. Patching and repairing is done on a scheduled or as-needed basis. All existing paved and oiled streets are on the 8 year cycle chip seal list. Approximately 1,122,450 square yards of paved streets were chip sealed in 2019. Oil and sand sealing of oiled streets is no longer done. The City recycles the reclaimed chip seal rock. In the fall, streets are swept for leaf pickup. All material swept up during the fall cleanup is hauled to a State licensed disposal facility.

Class IV - Oiled and Paved Alleys
All oiled and paved alleys are swept during the late spring and summer. All routine maintenance, including patching and repairing of the alley surfaces, is performed on a scheduled or as-needed basis. All existing paved and oiled alleys are now on an 8-year cycle chip seal list.

Class V and VI - Unimproved Streets and Alleys
Unimproved streets and alleys are right-of-ways that have not been developed. There are approximately 50 miles of unimproved streets and approximately 288 miles of unimproved assessed alleys in the City. Because they are City right-of-ways, the City has the responsibility to perform minimal repairs and maintenance work on them to make them passable and to reduce hazards. The maintenance and repair of these streets and alleys

consists of patching, minor blading, and placing of crushed rock or other stabilized material.

Disposal

The materials collected from street sweeping are delivered to the City's Pleasant/View and Como/Western yards. The City's hauling contractor hauls the material away to have it screened and disposed of properly. The contractor composts the organic materials, which are mostly collected in the fall sweep.

Street Maintenance has a Hazardous Waste Disposal Policy in place. Any hazardous materials collected from City streets are disposed of in environmentally acceptable means. In 2001, the sweepings collected from City streets and alleys were tested and found to be within the Environmental Protection Agency's guidelines for recycling purposes, after screening out waste and debris. Approximately 7 to 10% of swept up material is disposed of in a landfill. Street Maintenance also services over 440 trash receptacles and disposes of refuse from neighborhood cleanups each year.

2019 Street Sweeping Quantities (Cubic Yards)

Season	Spring/Summer	Fall
Totals	5,725	9,225

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.7: ROADWAY DEICING MATERIALS MANAGEMENT

Description

The objective of this program is to minimize the runoff of deicing materials applied to roadways under its jurisdiction, consistent with public safety and to properly store deicing materials.

Assessment Process for Annual Reporting

- Report on quantity of deicing materials, chemicals, and sand applied.
- Report location and description of deicing materials storage facilities.
- Report number of staff attending training on use of salt.

2019 Activities

Snow and Ice Control

Minnesota weather conditions may require ice control from late September through early May. Frost forming on bridge decks is usually the first and last ice control event of the winter season. From early November through mid-April, the need for pavement treatment is determined by temperature and precipitation. Frequency of snow events through the winter season influences amounts of material used. The City's foremost objective is to maintain safe roads for all users. The consequences of icy roads are longer travel times, adverse economic impact, accidents and injuries.

Salt is the primary material used to melt snow and ice. Salt and treated salt is effective to 15°F and 0°F respectively, but factors such as darkness, continuing snow, type and quantity of precipitation, all reduce melting performance. Sand is sometimes used to enhance traction, usually when temperatures are below 0°F and snowfall amount is likely to be greater than 3 inches. Specific application rates are decided upon for each snow event and adjusted to the minimum amount necessary to achieve the desired results.

Saint Paul uses treated salt for pavement temperatures below 15°F and regular salt for temperatures from 15°F and above. Salt brine is used to pre-wet salt from the salt spreaders, making the salt more effective. The benefits of pre-wetted salt are better melting performance, less bounce, residual value and reduction in amount of salt used. All salt trucks are presently fitted with salt pre-wetting equipment. Public Works developed and adopted a formal Salt Management Plan in the fall of 2011.

Additionally, Saint Paul anti-ices major streets and bridges with salt brine prior to winter events. Anti-icing helps decrease the bond of snow and ice to the pavement. Anti-icing can be used as the primary tool to fight frost.

Storage of De-icing Materials

Salt and mixed piles of sand and salt are covered year round to eliminate runoff. Storage facilities are located at the following locations:

873 N. Dale Street
310 South Victoria Street

Snow and Ice Control

Typically 3 or 4 snow emergencies are declared during per winter. It is anticipated that ice control materials used for 2020 will be similar to 2019 quantities.

2019 Ice Control Material Quantities

Salt (tons)	20,985

Employee Training

Saint Paul Public Works is an advocate of networking and regularly attends events such as the American Public Works Association North American Snow Conference and the Fresh Water Society Road Salt Symposium. All new operators attended a Snow and Ice Control training session. The main purpose of this session was to train employees to get the most out of every application, maintaining the safest roads possible in the most economical way, while protecting the environment. The session addressed the following: abrasives, salt, pre-wetting. anti-icing, equipment calibration and material storage. The Minnesota Snow and Ice Control Handbook and Saint Paul Public Works Salt Management Plan are available to all employees and are used as a guide in our best practices.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.8: CITY PARKING LOT & EQUIPMENT YARD MANAGEMENT

Description

The objective of these activities is to minimize the discharge of pollutants by utilizing proper fleet and building maintenance practices, and proper operation and maintenance of parking lots and equipment and storage yards. Program categories include the following:

a) Saint Paul Parks and Recreation – parks, recreation centers, maintenance facilities

b) Planning & Economic Development –city owned parking lots

c) Public Works

- Dale Street Facility includes Street Maintenance, Traffic Operations and Municipal Equipment
- Sewer Maintenance
- Asphalt Plant

Assessment Process for Annual Reporting

- Narrative of training activities
- Report on development of standard operating procedure

2019 Activities

The Parks Department and the Department of Public Works have Clean Water Policies which are distributed, reviewed, and signed by all field staff. (See Appendix)

Dale Street Facility Sediment Control Structure: Public Works hired WSB and Associates to complete a Facility Improvements Feasibility Report for four Public Works facilities and one Parks and Recreation facility. In 2012, a large pre-fabricated sediment control and collection structure was constructed at the Public Works' Dale Street Facility. This structure is inspected and cleaned as necessary.

***Parks and Recreation Wash Stations*:** Contracted with ESD Waste2Water, Incorporated to complete site visits and provide five proposals for installation of permanent or portable equipment wash stations. Parks will seek funding for future installation.

SWPPP Development: Public Works hired a consultant to prepare a SWPPP for the Sewer Maintenance Property in 2018. Public Works has requested proposals for development of SWPPPs at Como-Western, Pleasant-View, and the Dale Street Complex.

Employee Training

- Saint Paul Public Works is an advocate of networking and regularly attends events such as the American Public Works Association North American Snow Conference and the Fresh Water Society Road Salt Symposium. All new operators attended a Snow and Ice Control training session. Attendees received certification from the MPCA. The main purpose of this session was to train employees to get the most out of every application, maintaining the safest roads possible in the most economical way, while protecting the environment. The session addressed the following: abrasives, salt, pre-wetting. anti-icing, equipment calibration and material storage. Public Works and Parks staff annually attends the Road Salt Symposium. The Minnesota Snow and Ice Control Handbook and Saint Paul Public Works Salt Management Plan are available to all employees and are used as a guide in our best practices.
- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment control in the public Right-of-Way, etc. Attendees are comprised of various municipal employees and utility businesses.
- In 2018, the Sewer Utility hired a Consultant to prepare an Illicit Discharge Detection and Elimination Field Guide for the Sewer Utility. Training on the Field Guide occurred in March 2018.
- A fact sheet was developed and distributed with the adoption of the new ordinance (See Appendix). Several staff meetings were held throughout the development of the ordinance.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.9: FIELD OPERATIONS MANAGEMENT

Description

The objective of this program is to minimize the discharge of pollutants from the operation and maintenance of City right-of-way and park property.

Assessment Process for Annual Reporting

- Narrative of training activities
- Report on development of standard operating procedures

2019 Activities

The Parks Department and the Department of Public Works have Clean Water Policies which are distributed, reviewed, and signed by all field staff. (See Appendix)

Employee Training

- Saint Paul Public Works is an advocate of networking and regularly attends events such as the American Public Works Association North American Snow Conference and the Fresh Water Society Road Salt Symposium. All new operators attended a Snow and Ice Control training session. Attendees received certification from the MPCA. The main purpose of this session was to train employees to get the most out of every application, maintaining the safest roads possible in the most economical way, while protecting the environment. The session addressed the following: abrasives, salt, pre-wetting. anti-icing, equipment calibration and material storage. Public Works and Parks staff annually attends the Road Salt Symposium. The Minnesota Snow and Ice Control Handbook and Saint Paul Public Works Salt Management Plan are available to all employees and are used as a guide in our best practices.
- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment control in the public Right-of-Way, etc. Attendees are comprised of various municipal employees and utility businesses.
- In 2018, the Sewer Utility hired a Consultant to prepare an Illicit Discharge Detection and Elimination Field Guide for the Sewer Utility. Training on the Field Guide occurred in March 2018.
- A fact sheet was developed and distributed with the adoption of the new ordinance (See Appendix). Several staff meetings were held throughout the development of the ordinance.

- Four Parks and Recreation staff attended a Flowering Bee Lawn for Land Managers training on July 31st to learn about bee lawns, which can mitigate erosion under harsh conditions.
- Approximately eighty Parks staff renewed their non-commercial pesticide application licenses to ensure proper application and management of pesticides.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.10 STORMATER RUNOFF VOLUME REDUCTION PLAN

Description

The objective of this program is to conduct a study of how stormwater volume reduction practices will best fit into Saint Paul's overall goals of stormwater management for projects that disturb one acre or more. Volume reduction practices include infiltration, bioinfiltration, stormwater reuse, evapotranspiration, minimizing and disconnecting impervious surfaces.

Assessment Process for Annual Reporting

- Narrative of progress towards plan development and implementation.

2019 Activities

The City submitted its Volume Reduction Plan to the MPCA in January of 2015. This plan provided a summary of the City's volume reduction projects, identified opportunity sites and identified areas in the City where there are limitations on the construction of volume reduction BMPs.

In 2016, the City entered into a contract to update the Local Surface Water Management Plan. As a part of this planning effort, various ordinances will be analyzed and revisions proposed. This will assist in future planning to meet the identified Proposed Activities and Implementation Schedule.

In 2017-2019, Parks and Recreation, Public Works, and Capitol Region Watershed District participated in the initial development of a Como Park Stormwater Master Plan that will aid in the installation of water quality improvement projects impacting Como Lake. Anticipated implementation of regional BMPs to occur in 2020.

In 2019, the Public Works Department furthered plans evaluating the Sackett Pond for a possible retrofit with Iron-enhanced sand filtration.

In 2019, the Public Works Department furthered a feasibility study of retrofitting Bush-Desoto Pond for potential stormwater quality benefits.

MCM 7: Monitoring & Analysis

BMP 7.1: Cooperative Monitoring Program

Description

The objective of this program is to develop and implement a cooperative monitoring, analysis, and reporting effort with partnerships that could include: adjacent municipalities, Capitol Region Watershed District, Mississippi Watershed Management Organization, Ramsey-Washington Metro Watershed District, Metropolitan Council Environmental Services, Ramsey County Environmental Health and Metropolitan Mosquito Control District.

Assessment Process for Annual Reporting

- Number and type of monitoring sites.
- Annual monitoring and analysis results.

History

As part of the two part application for the NPDES permit, the City of Saint Paul conducted stormwater monitoring at 5 sites for one season. From 2001 through 2004, the Cities of Saint Paul and Minneapolis and the Minneapolis Park and Recreation Board participated in a joint stormwater monitoring program, as required by the stormwater permit. Minneapolis Park Board staff conducted the monitoring program. The Stormwater Monitoring Program Manual was completed by Minneapolis Park Board staff and submitted separately to the MPCA in April of 2001. The joint monitoring agreement was submitted to the MPCA in 2002.

Sampling sites were identified in the Stormwater Monitoring Program Manual. The sampling sites were selected from the sites used in the stormwater permit application monitoring program. Five sites were chosen, representative of the following land use types: two residential sites, two industrial/commercial sites and one mixed use site. Two sites were located in Minneapolis and three were in Saint Paul. The permit required two years of mercury monitoring, which was conducted in 2002 and 2003.

Beginning In 2005, the City began a partnership with the Capitol Region Watershed District, to conduct the stormwater permit monitoring program for Saint Paul as part of CRWD's overall monitoring program. CRWD established a monitoring program in 2004 to collect stormwater data from the major subwatersheds and stormwater best management practices (BMPs).

In 2012, the City began its Stormwater Monitoring Program. Monitoring is completed at various locations including: constructed stormwater BMPs, proposed locations for stormwater BMPs, and groundwater sites. Electronic water monitoring equipment is used to collect water quantity and quality data on a continuous basis from selected sites.

2019 Activities

Monitoring Program

The City of Saint Paul collaborated with CRWD on the 2019 Stormwater Monitoring Program. Sites monitored by CRWD include: outfalls, BMPs, lakes and ponds. Many sites are full water quality monitoring stations, while other sites capture level data. CRWD publishes their current Monitoring information on their website at: www.capitolregionwd.org.

In 2019, the City, through a consultant, conducted the Stormwater Monitoring Program. Below is a list of the range of Stormwater Monitoring. Electronic water monitoring equipment was used to collect water quantity and quality data on a continuous basis from stormwater BMPs, which included:

- Water level at 6 sites
- Flow volumes at 6 sites
- Composite water quality sampling at 6 sites
- Groundwater elevation at 2 locations

Analysis of the collected data generated valuable information related to the performance of each BMP. This information included:

- Average infiltration rates measured in the BMPs exceeded the rates recommended in the Minnesota Stormwater Manual and watershed district rules for specific soil types.
- The BMPs are more effective at reducing stormwater volume and pollutant loads to downstream water bodies than is currently being recognized by the watershed districts.
- The Dynamic Method for sizing volume reduction BMPs was shown to be more accurate than the Simple Method. Allowing the use of the Dynamic Method in demonstrating compliance with watershed district rules would generate significant cost savings to the public.

A comprehensive report summarizing the City's BMP monitoring program can be found on the City's Stormwater page at https://www.stpaul.gov/departments/public-works/sewer-utility-divison/stormwater.

In 2017, the City, through a consultant, participated in the formation of the Twin Cities Water Monitoring and Data Assessment Group. The group is formed from public-sector water resources practitioners as a way to establish and promote standard practices for: water quality monitoring, data analysis and data stewardship. The City's representative has continued to participate in this group on an annual basis.

Stormwater Runoff and Water Quality Modeling

In 2010, the City completed the first phase of a program that includes stormwater modeling, a citywide volume reduction inventory and plan to address stormwater on the 2010 Residential Street Reconstruction Program. The modeling includes the development of an XPSWMM and P8 modeling and uses the CRWD monitoring data for calibration. Three major subwatersheds, as

well as the 2010 street reconstruction subwatersheds, were modeled. In 2011, the City began modeling as a component of the storm tunnel rehabilitation program. The Saint Anthony Park and Davern subwatersheds have been modeled. In 2012, the City began modeling the Phalen Creek storm sewer interceptor. Modeling projects were completed in support of the Sewer and street projects. The citywide modeling map is found in the Appendix. These models will be used by the City in the development of future stormwater programs and projects.

Pollutant Loading Calculations

The estimation of pollutant loadings from 2019 is found in the Appendix. Historically, pollutant loading calculations were offset by one year due to analysis timelines. With improvements in data management, the timeline needed for analysis has been reduced.

MCM 8: Discharges to Impaired Waters with a TMDL

BMP 8.1: TMDL Program

Description

Stormwater runoff from Saint Paul is discharged to several surface waterbodies including the Mississippi River. Several of these have been listed on Minnesota's Impaired Waters List for having the presence of concentrations of certain pollutants identified at levels higher than Minnesota standards.

Assessment Process for Annual Reporting

- On a form provided by the **Commissioner**, an assessment of progress toward meeting each **applicable WLA**. The assessment of progress must include:
    - A list of all **BMP**s being applied to achieve each **applicable WLA**. For each **structural stormwater BMP**, the **Permittee** must provide a unique identification (ID) number and geographic coordinate. If the listed **structural stormwater BMP** was inventoried during the 2011 Phase I **MS4** permit term, the same ID number must be used.
    - **A list of all** BMP**s the** Permittee **submitted with the** TMDL **compliance schedule and the stage of implementation for each** BMP**.**
    - An updated estimate of the cumulative reductions in loading achieved for each **pollutant of concern** associated with each **applicable WLA**.
    - **An updated narrative describing any adaptive management strategies used (including projected dates) for making progress toward achieving each** applicable WLA**.**
    - **The results of the comparison(s) of estimated pollutant loading(s) to each** impaired water **in the** Permittee**'s jurisdiction and the** Permittee**'s** WLA **for that** impaired water**.**

2019 Activities

TCMA Chloride TMDL (Como, Battle Creek, Kasota Ponds West, Mallard Marsh)

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works equipment upgrades, advancements in de-icing technologies, and training.
- Cooperative Monitoring Program.

South Metro Mississippi River TSS TMDL

- Participation in the Adopt-a-Drain Program.

- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Public Works Municipal Mitigation Program (2019: Wheelock Parkway, Fairview, Summit Bridge, Sackett Pond, Bush-Desoto Pond).
- Cooperative Monitoring Program.
- Development & Redevelopment Mitigation Program (2019: MLS Soccer Stadium, Ford Site Redevelopment, other Private Site Plans).

Como Lake Excess Nutrients TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Cooperative Monitoring Program.
- Participation in Como In-Lake Management Plan
- Participation in Como Park Stormwater Master Plan.

Battle Creek TSS TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Cooperative Monitoring Program.

Fish Creek E. Coli TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Cooperative Monitoring Program.

Wakefield Lake Phosphorus TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Cooperative Monitoring Program.

Appendix

Minnesota Pollution Control Agency

National Pollutant Discharge Elimination System

Permit No. MN 0061263

May 2020

Budget	2019	2020	2021	2022	2023	2024
Storm Sewer Projects						
Stormwater Quality Improvements	$867,000	$500,000	$510,000	$520,200	$530,604	$541,216
Storm Sewer Tunnel Rehabilitation	$4,080,000	$3,500,000	$3,570,000	$3,641,400	$3,714,228	$3,788,513
	$4,947,000	**$4,000,000**	**$4,080,000**	**$4,161,600**	**$4,244,832**	**$4,329,729**
Storm Sewer Maintenance						
Storm Sewer Cleaning, Inspection & Repair	$404,427	$412,515	$420,765	$429,181	$437,764	$446,520
Pond-Levee Inspection & Maintenance	$262,250	$267,495	$272,845	$278,302	$283,868	$289,545
Catch Basin Inspection, Cleaning & Repair	$551,324	$562,351	$573,598	$585,070	$596,771	$608,706
Manhole Cleaning, Inspection & Repair	$114,997	$117,297	$119,643	$122,036	$124,476	$126,966
BMP Cleaning	$93,768	$95,643	$97,556	$99,507	$101,497	$103,527
	$1,426,766	**$1,455,301**	**$1,484,407**	**$1,514,095**	**$1,544,377**	**$1,575,264**
Stormwater Modeling & Monitoring						
Stormwater Modeling	$279,490	$232,709	$237,363	$242,110	$246,953	$251,892
Stormwater Monitoring	$139,927	$142,726	$145,580	$148,492	$151,461	$154,491
	$419,417	**$375,435**	**$382,943**	**$390,602**	**$398,414**	**$406,382**
Street Maintenance						
Street Sweeping	$4,053,697	$4,134,771	$4,217,466	$4,301,816	$4,387,852	$4,475,609
Neighborhood Cleanups	$160,494	$163,704	$166,978	$170,318	$173,724	$177,198
	$4,214,191	**$4,298,475**	**$4,384,444**	**$4,472,133**	**$4,561,576**	**$4,652,807**
Public Education Program						
Storm drain stenciling including door hangers	$49,275	$49,640	$50,633	$51,645	$52,678	$53,732
MN Cities Stormwater Coalition	$5,099	$5,201	$5,305	$5,411	$5,519	$5,630
Cleanwater MN & Watershed Partners	$20,000	$20,000	$20,400	$20,808	$21,224	$21,649
Adopt a Drain	$10,054	$10,544	$10,755	$10,970	$11,189	$11,413
	$84,428	**$85,385**	**$87,093**	**$88,835**	**$90,611**	**$92,423**
Total Budget	**$11,091,802**	**$10,214,595**	**$10,418,887**	**$10,627,265**	**$10,839,810**	**$11,056,606**

2% used for annual inflation where projected amounts unknown

DEPARTMENT OF SAFETY AND INSPECTIONS
Ricardo X. Cervantes, Director

CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

375 Jackson Street, Suite 220
Saint Paul, Minnesota 55101-1806

***Telephone**: 651-266-9090*
***Facsimile**: 651-266-9124*
***Web**: www.stpaul.gov/dsi*

Standard Operating Procedures for Erosion and Sediment Control Complaint

1) Someone sees an erosion and sediment control issue (dirt on street, etc).
- They should call the City Complaints Office: 651-266-8989

2) Complaint is passed on from Complaints Office to Senior Building Inspector (651-266-9021)

3) Building Inspector follows up on complaint using DSI Erosion and Sediment Control Worksheet

4) If Building Inspector determines source is from the Public Right-of-Way (ROW) or from City Construction Projects the complaint will be forwarded to the Public Works Inspectors –
- For Private Utility Construction in ROW: 651-487-7250 (General Number for ROW Permit Section)
- For City Construction Projects: 651-266-6081 (Street Engineering Construction Division)

Public Works Inspector will inspect and follow up accordingly

5) First Inspection
- DSI Erosion and Sediment Control Worksheet completed
- If site is non-compliant: Building Inspector issues immediate verbal order, if possible, or issues a written order if no one is on site, to address situation, sets a compliance date based on the nature of the complaint, and notes details of non-compliance in Worksheet

6) Second Inspection
- Building Inspector Conducts 2nd inspection of site after compliance date
- 2nd DSI Erosion and Sediment Control Worksheet completed
- If continued non-compliance: Building Inspector issues written orders, sets a new compliance date based on the nature of the complaint, and notes details of non-compliance in Worksheet

7) Third Inspection
- Building Inspector Conducts 3rd inspection of site after compliance date
- 3rd DSI Erosion and Sediment Control Worksheet completed
- If continued non-compliance, proceed with stopping construction work at the site, or submitting the violation to the City Attorney for potential prosecution, or pursue abatement if sediment crosses boundary of the site and project is greater than 1 acre.

DEPARTMENT OF SAFETY AND INSPECTIONS
Bob Kessler, Director

CITY OF SAINT PAUL
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***Telephone**: 651-266-9090*
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Erosion and Sediment Control Worksheet

Property Address:

Inspector:

Permit # (if applicable):

Inspection Date:

Re-inspection Date:

Inspection Type:

Size of Site:

Inspection Results

Sewer Inlet Protection:

Comments:

Street Condition:

Comments:

Rock Entrance:

Comments:

Concrete Washout Area:

Comments:

Silt Fence/Sediment Control:

Comments:

Stock Pile Erosion Control:

Comments:

Site Erosion Control:

Comments:

Corrective Action:

Comments:

Staff Procedure - Review Checklist for Site Plan Erosion Control
revised 2018

Project Name and/or Address:_____ Site Plan Review Date:_____

1. Does this project result in moving 50 cubic yards or more or will building permit be issued?
   Unless grading activity is included in a general building permit, a grading permit shall be required for the placement, removal or movement of more than fifty (50) cubic yards of fill
   ☐ Yes – Continue ☐ No – Stop

2. Does this project disturb greater than 10,000 square feet?
   Grading activities in excess of ten thousand (10,000) square feet require site plan review in accordance with section 61.402(a) of the Saint Paul Legislative Code.
   ☐ Yes – Continue ☐ No – Complete erosion control review per §33.03(g)3

3. Does this project disturb greater than 1-acre?
   If yes, MPCA Construction Stormwater Permit required; verify watershed permit.
   ☐ Yes – Continue per §52.04 ☐ No – Complete erosion control review per §61.402(c)(11)

Document on this form, or other form as appropriate, the adequacy of erosion and sediment control. Use the minimal criteria below as a starting point for beginning the standard procedure.

Indicate plan sheets containing erosion control methods:

	CRITERIA	OK	Issue	N/A	Comment
	Rock construction entrance identified on plans				
	Perimeter protection				
	Inlet protection for catch basins				
	Street sweeping note on plans				
	Stabilization shown for disturbed areas				
	Other items as scope of work requires				

Supplemental Plan Information
Disturbed area:
Permanent runoff control practice(s):

Staff Notes for site plan revision/approval:

Procedure

1. Review plan in accordance with grading §33.03(g)3, site plan review and approval §61.402(c)(11) and/or stormwater pollution control plan §52.04. (MPCA "Manual for Protecting Water Quality in Urban Areas")
2. Document plan review comments in Site Plan Review Committee conditional approval letter.
3. Document plan review decision in Site Plan Review approval letter. State if MPCA Construction Stormwater Permit is required; if so, approval contingent on obtaining permit card, verified at https://cf.pca.state.mn.us/water/stormwater/csw/search.cfm

CITY OF SAINT PAUL
Melvin Carter III, Mayor

Public Works
Right-of Way Division

Telephone: 651-266-6151
Facsimile: 651-266-9765
Email: PW-ROWpermits@ci.stpaul.mn.us

The Most Livable City in America

EROSION AND SEDIMENT CONTROL FOR UTILITY PROJECTS IN THE RIGHT-OF-WAY

It is essential to prevent dirt, debris, oils and other waste from entering storm drains or water resources. (See official Public Works Right-of-Way Erosion Control Policy, dated 2/23/2015.)

Erosion and sediment control devices are **REQUIRED** for any utility construction or grading project that will result in significant land disturbing activity in the public right-of-way.

- Inlet protection and perimeter control must be installed **BEFORE** any land disturbance begins.
- Temporary land stabilization practices should be installed:
  - Daily for temporary stockpiles on or near street (including plastic cover); *and*,
  - Within 7 days after work is completed over all disturbed areas not on or near the street (including temporary seeding of spoil piles though seeding and mulching).
- Refer to the Mn/DOT Pocketbook Guide (2017) for guidance to preventing pollutants from leaving construction sites: https://www.erosion.umn.edu/resource-links/pocketbook-guide

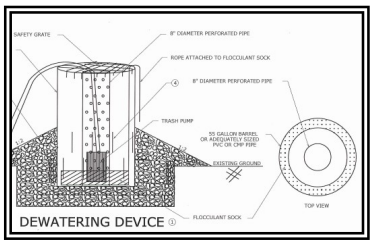
PUBLIC WORKS – STANDARD PLATES for TEMPORARY SEDIMENT CONTROL
https://www.stpaul.gov/departments/public-works/standard-plates/sewers-appurtenances

TEMPORARY SEEDING AND MULCHING, OR PLASTIC COVER
Temporary seeding and mulching quickly protects the soil from erosion until establishment of permanent stabilization. Applicable areas include any topsoil stockpiles and any areas disturbed by grading activities.

For areas that must be stabilized each day (located on or near the street) plastic cover should be used instead.

STORM DRAIN INLET PROTECTION
Storm drain inlet protection prevents sediment from entering a storm drain by surrounding or covering the inlet with a filtering material. This allows sediment-laden runoff to pond and settle before entering the storm drain.

Filter types are shown in Public Works standard plates 2400A, 2401, and 2402. Protection(s) must be removed upon completion of work.



DEWATERING TREATMENT
Site-specific devices, including flocculant pipes or socks, can be used to reduce sediment in pumped discharge. Refer to Public Works standard plate 2403 for controlling dewatering activities.

Clear discharge is defined as a maximum NTU reading of 50 plus the background receiving water at the time of discharge.

DAILY AND AS-NEEDED STREET SWEEPING
Street sweeping is used to clean the pavement and curb-line area on a regular basis to remove tracked sediment, debris, and other pollutants from paved surfaces.

CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

Public Works
Right-of-Way Division

elephone: 651-487-7250
F x: 651-487-7245

ROW Erosion and Sediment Control Worksheet

Project: **Project File No.**:

Property Address:

Inspection Date: **Re-inspection Date**:

Inspection Type: **Size of Site**:

Inspection Results

Sewer Inlet Protection:

Comments:

Street Condition:

Comments:

Silt Fence/Sediment Control:

Comments:

Stock Pile On or Near Street:

Comments:

Stock Pile Not On or Near Street:

Comments:

Corrective Action:

Comments:

SPILL REPORTING FORM

City of Saint Paul - Department of Parks and Recreation

INSTRUCTIONS

EMPLOYEE: Form should be filled out as completely as possible, on the same day as the spill occurred, by the individual involved in the spill. Describe all the events in as much detail as possible, especially the cleanup activities. If you have any questions regarding this form, contact your supervisor, or Environmental Services staff (651-632-5111). When completed, return form to your supervisor.

SUPERVISOR: Please return form as soon as possible to Adam Robbins, Como Central Service Facility.

Date of Spill:_____ Name (PRINT):_____

Time of spill:_____ Supervisor:_____

Section:_____ Phone number to reach you:_____

What was spilled?:_____

How much was spilled?:_____

Did the spill flow into a sewer? If yes, what type of sewer (sanitary, storm or unknown)?

_____

What type of surface did the spill occur on (soil, concrete, etc)?:

_____

Location of Spill (Be specific- address, intersection, exact location):

_____

_____

Describe what was happening when the spill occurred:

_____

_____

_____

What caused the spill (overfill, broken line, etc)? Be specific:

_____

Describe how the spill was cleaned up:

_____

_____

How were the spill cleanup materials disposed of?:

_____

List the names of other employees involved in the spill or cleanup:

_____

Was the MN Duty Officer called (651-649-5451)? _____

If yes: Who called?_____ Date_____Time_____

Duty Officer Report #:_____PCA Spill #_____

Employee Signature:_____

Spill Kit Instructions

Stop source of spill, if it can be safely done. If not, immediately call the Minnesota Duty Officer.

Contain spill. Wear gloves. Your first priority is to protect the spill from flowing into a storm sewer or drain. Use the 3" x 4' socks to create a barrier between the spill storm sewers/drains. Use the pillows to absorb pools of contained material (up to a half gallon per pillow). Small spills can be cleaned up with the absorbent pads.

Contact your supervisor or Environmental Services staff as soon as it is safe/practical to do so. If neither are available, contact the MN Duty Officer.

Complete a spill report form for all spills, **regardless of size**. The Minnesota Duty Officer must be notified for:

Petroleum (gasoline, diesel, hydraulic fluid, oil) spills of unknown amounts or over 5 gallons
Non-petroleum (antifreeze, pesticides, etc) spills of any amount

Phone Numbers
Environmental Services – (651) 632-5111
MN Duty Officer – (651) 649-5451

Disposal of used materials:
Used socks, pads and pillows should be placed in yellow hazardous waste bags found in the spill kit. Materials used to soak up petroleum spills should be disposed of in the 55 gallon barrel marked "Used Oil Sorbents" in the fuel shed at the Como Central Service Facility. For instructions on how to dispose of materials used to clean up non-petroleum substances, contact your supervisor or Environmental Services staff.

Replace used spill kit items promptly. All materials found in your spill kit are available from the Storeroom at the Como Central Service Facility.

FACILITY SPILL KIT INVENTORY	**qty**	**type**
kit absorbs ~8 gallons	30	17"x19" pads
	3	3"x4' socks
	4	2"x10"x10" pillows
	4	Hazardous Waste Bags
	2	Pair Nitrile Gloves
	4	Spill Reporting Forms

VEHICLE SPILL KIT INVENTORY	**qty**	**type**
kit absorbs ~5 gallons	10	17"x19" pads
	2	3"x4' socks
	2	Hazardous Waste Bags
	1	Pair Nitrile Gloves
	4	Spill Reporting Forms

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SAINT PAUL PARKS AND RECREATION

POLICY

DEPARTMENT

NUMBER: DIV. 4.4.2
PLACEMENT: Physical Resource Management
EFECTIVE DATE: 03/2010
UPDATED: 03/10

SUBJECT: Water Protection Policy

PURPOSE: To protect natural water bodies through the use of best management practices by all employees working near rivers, streams, lakes, ponds, and/or near storm sewers and impervious surfaces that lead to such water.

SCOPE: All Parks and Recreation employees.

POLICY STATEMENT:
As stewards of the environment, employees will take all precautionary measures to protect local water resources. The Department is committed to maintaining compliance with applicable environmental laws and regulations and to continually improve operations to prevent pollution of waterways that can harm local ecosystems and public health. This policy applies to any intentional act or unintentional act resulting from poor or neglectful work practices.

PROCEDURES (AND/OR REQUIREMENTS, EXPECTATIONS):

1. No dirt, silt, vegetation, organic material, debris, or other foreign materials will be deposited into any river, lake, stream, pond, or into any sewer system that leads to such water.

2. Employees will not blow, broom, sweep, whip, or shovel anything including dirt, silt, sand, debris, weeds, or other organic material into such body of water.

3. While performing work near such water, all debris will be picked up and removed from the site to be properly disposed of. In the event that an employee is not sure of proper disposal, the Supervisor should be called immediately.

4. No dirt, grass, organic material, debris or other foreign materials shall be intentionally deposited onto streets or other impervious surfaces without a plan for its immediate removal. This includes anything that may enter the sewer system. Exception: Sand/salt/deicers approved for controlling snow and ice when used appropriately.

5. When sweeping boulevards or edging curbs, a plan is required to immediately remove all dirt and debris deposited into the street. This may mean coordinating the clean up with Public Works or other street sweepers prior to the start of the job. If rain is expected, work should be delayed.

SAINT PAUL PARKS AND RECREATION

POLICY

DEPARTMENT

REQUIRED ITEMS AND/OR RELATED INFORMATION:

SECTION MANAGER'S RESPONSIBILITIES	SUPERVISOR'S RESPONSIBILITIES	EMPLOYEE'S RESPONSIBILITIES
Ensure all employees under his/her jurisdiction are aware of this policy and procedures.	Advise all employees of this policy and procedures.	Adhere to the policy.
Ensure that supervisors in his/her section enforce this policy and procedures.	Ensure that employees follow this policy and procedures.	Follow the procedures.
	Issue warnings or initiate disciplinary action as needed to ensure employee compliance.	Ask for additional training if needed.

Owner: Karin Misiewicz, Parks Supervisor **Next Review Date:** 02/11

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POLICY STATEMENT:
As stewards of the environment, employees will take all precautionary measures to protect local water resources. The Department of Public Works is committed to maintaining compliance with applicable environmental laws and regulations and to continually improve operations to prevent pollution of waterways that can harm local ecosystems and public health. This policy applies to any intentional act or unintentional act resulting from poor or neglectful work practices.

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3. While performing work near such water, all debris will be picked up and removed from the site to be properly disposed of. In the event that an employee is not sure of proper disposal, the Supervisor should be called immediately.

4. No dirt, grass, organic material, debris or other foreign materials shall be intentionally deposited onto streets or other impervious surfaces without a plan for its immediate removal. This includes anything that may enter the sewer system. Exception: Sand/salt/deicers approved for controlling snow and ice when used appropriately.

5. When sweeping streets or edging curbs, a plan is required to immediately remove all dirt and debris deposited into the street. This may mean coordinating the clean up with other street sweepers prior to the start of the job. If rain is expected, work should be delayed.

Policy Approval:

Kathy Lantry

_____

Kathy Lantry, Public Works Director

Next Review: November 1, 2021

CITY OF SAINT PAUL
Mayor Christopher B. Coleman

390 City Hall
15 West Kellogg Boulevard
Saint Paul, MN 55102

Telephone: 651-266-8510
Facsimile: 651-228-8513

Fact Sheet

Chapter 51. Allowable Discharges to the Storm Sewer System

What is the focus of the new ordinance?

This ordinance is intended to prevent pollution from entering the City's storm sewer system, which discharges directly to our lakes and the Mississippi River. The ordinance formally defines what is allowed and prohibited.

Prohibitions include, but are not limited to:

- Motor oil, paint, solvents, or other liquids poured into a catch basin;
- Grass, leaves, or landscape material intentionally disposed in the street or waters;
- Sanitary connections to the storm system; or,
- Wash water, concrete wash out to the street or other improper disposal of waste.

Why is the ordinance needed?

The Minnesota Pollution Control Agency regulates Saint Paul's stormwater under the federal Clean Water Act. This serves to protect water quality in lakes and rivers. Under this permit, the City is obligated to enact regulatory controls to prevent pollutants from entering the storm sewer system.

What is the City currently doing to address this and how will this help?

- The City educates citizens on how to prevent pollution going into the storm sewer system by working with volunteer groups to stencil "don't pollute, drains to river" graphics on city storm drains and distribute multi-lingual door hangers.
- The City addresses municipal maintenance operations by implementing policies and procedures to avoid improper behaviors leading to stormwater pollution.
- Improper discharges to the storm sewer system are currently addressed on a complaint basis.

Several existing ordinances indirectly address pollution prohibitions, but lack specificity. The new ordinance clarifies and strengthens pollution prevention controls. It better positions the City to take enforcement steps, if necessary. Public Works and DSI jointly share enforcement responsibilities.

How does this ordinance affect citizens, businesses, or other constituents?

It is difficult to generalize due to the range of potential circumstances and impacts of prohibited discharges – from raking leaves into the street to dumping oil into a storm drain.

This ordinance will primarily be used to respond to public complaints. Awareness and education about the new ordinance, and avoiding water quality impacts, will be stressed. Enforcement in the form of abatement letters may be taken, depending on the circumstance and threat to water quality.

2019 Discharges Addressed

Date	Discharge	Action
January 2019	Frozen sewage on street due to plugged sanitary sewer main at 2117 Oakridge Street.	Sewer Maintenance opened sewer main, and cleaned up sewage from street.
February 2019	Complaint from MPCA re Salt Management at Dale Street Complex.	Investigated by Street Maintenance. Determined to be adhering to all Best Management Practices.
February 2019	Sewer back-ups at 2137 Burns and 262 Winthrop and sewage on street due to plugged sanitary sewer main.	Sewer Maintenance opened sewer main, and cleaned up sewage from street.
March 2019	City Staff detected Sanitary Cross Connection to Storm eminating from 543 James Ave.	DSI initiated Abatement Process.
March 2019	City Staff detected excessive sediment load eminating from Park Pond Cleaning Project at Swede Hollow.	PW informed Parks to remove sediment and stabilize site.
April 2019	City Staff observed lack of ESC measures on Randolph, beneath High Bridge.	ROW sent to MnDOT to address.
April 2019	Complaint received by Dale Street regarding sewage spill at Pacific and Etna (MCES Bypass Line)	Investigated by Sewer Maintenance, routed to MCES to clean-up.
April 2019	Complaint received by MPCA re Discharge from 2005 Ford Parkway.	Investigated by PW and DSI, determined to be trench dewatering. DSI sent follow-up letter to Property.
May 2019	City Staff observed tracking and lack of ESC measures at Wilder Square Homes (750 Milton, 735-771 Victoria, 873-915 Minnehaha).	Sent to DSI to address.
May 2019	City Staff observed dry weather discharge from 633 Minnehaha.	Sent to DSI to address.
June 2019	Private sanitary service connection failure at 308 Prince Street.	Investigated by Sewer Maintenance.
June 2019	Complaint from Public re black goo on sidewalk from 914 University.	Sent to DSI to address
June 2019	Complaint re localized flooding due to ESC at Scheffer Rec Center.	Investigated by CRWD
June 2019	Complaint of sawcutting slurry entering CB at Fourth & Cedar.	ROW sent to Sewer Maintenance. Contractor cleaned CB.
June 2019	Complaint of contaminated groundwater being discharged to the storm system at 246 Snelling.	Investigated by DSI-Plumbing
June 2019	Complaint of fluids from a dumpster leaking into street and CB at 2242 Knapp.	Investigated by DSI, Ramsey County, and PW. PW vactored CB and Swept Street.
July 2019	Unknown quantity of oil discharged into street/CB near Dale and Grand.	Sewer Maintenance cleaned CB, Street Maintenance swept street and alley.
July 2019	Sewer back-up at 1825 Suburban due to plugged sanitary sewer main.	Main opened, parking lot cleaned, and catch basins cleaned by Sewer Maintenance.
July 2019	Complaint from CRWD re SPRWS ESC on 10th between Jackson and Robert.	Addressed by SPRWS
August 2019	Complaint re oil spill draining into a CB in alley near 1728 Hoyt Ave E.	Investigated by Sewer Maintenance
August 2019	Complaint of paint on CB hoods.	Paint removed by Sewer Maintenance
August 2019	Complaint received by PW re Cooking Oil in CB at Edgewater and Jessamine	CB Vactored by Sewer Maintenance
August 2019	Complaint of sediment being discharged to ROW from 642 Charles.	Sent to DSI to address
August 2019	Complaint from CRWD to MPCA re possible chemical release from 557 Stinson Ave W.	Investigated by DSI.

August 2019	Complaint of Contractor dumping slurry in CB at 7th and Chatsworth.	Enforced by ROW, Contractor cleaned up slurry.
September 2019	Complaint on timing of sweeping streets to remove gravel and leaves received by MPCA.	Routed through PW Street Engineering and Street Maintenance.
September 2019	Complaint received by City re sheen present on private parking lot at 253 4th Street E.	Investigated by Sewer Maintenance, no spill occuring. Newly paved lot.
October 2019	Complaint of Resident dumping paint in CB at 158 Sydney.	Water Quality Complaint Letter sent by DSI
October 2019	Complaint of concrete washout in CB from Sidewalk Contractor near 1004 Minnehaha).	Addressed by Sidewalk Engineering and ROW.
October 2019	Tracking Complaint received by CRWD for Midway Peace Park Project.	Addressed by Contractor
October 2019	City Staff observed offsite tracking and unmaintained ESC at 416 Griggs.	Sent to DSI to address
November 2019	Complaint received from resident re ESC measures near Beaver Lake.	Addressed by Street Engineering
December 2019	Complaint of discharge in curb at 1791 Hague.	Associated with CIPP Lining

Metro Watershed Partners

2019 Annual Program Report

Metro Watershed Partners is a coalition of more than seventy public, private and non-profit organizations in the Twin Cities metro area. Through collaborative education and outreach, the Metro Watershed Partners promote a public understanding that inspires people to act to protect water in their watershed. Since 1996, partners have cooperated through educational projects, networking, and resource sharing.

MINNESOTA WATER
LET'S KEEP IT CLEAN

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Metro Watershed Partners 2019 Report

Introduction

Metro Watershed Partners is a coalition of more than seventy public, private and non-profit organizations in the Twin Cities metro area. Through collaborative education and outreach, the Metro Watershed Partners promote a public understanding that inspires people to act to protect water in their watershed. Since 1996, partners have cooperated through educational projects, networking, and resource sharing.

WATERSHED PARTNERS

The mission of the Metro Watershed Partners is two-fold:

- to provide and promote collaborative watershed education programs with consistent messages to the general public, local government staff and elected officials, and
- to provide WSP members a place and means to share information, generate ideas, and coordinate and support collaborative watershed education programs.

In 2019 members contributed $40,337.51 to support monthly meetings, exhibit checkout, administrative functions, and state fair outreach to hundreds of thousands of people. Members contributed $136,612.49 to support Adopt-a-Drain and the Clean Water Minnesota outreach campaign.

Leadership

The work of **Metro Watershed Partners** is guided by a steering committee that includes stormwater education professionals from watershed organizations, non-profits and government agencies. In 2019, our steering committee members were:

Angie Hong, Washington Conservation District
Chakong Thao, Minnesota Pollution Control Agency
Christina Schmitt, Hennepin County Environment and Energy
Deirdre Coleman, Freshwater Society
Jen Dullum, Vermillion River Watershed JPO (*convenor)*
Lyndon Torstenson, National Park Service, Mississippi National River & Recreation Area
Rebecca Haug, City of Blaine
Tracy Fredin, Center for Global Environmental Education, Hamline University

Clean Water MN

2019 Outreach Projects Report

MINNESOTA WATER
LET'S KEEP IT CLEAN

Clean Water MN is the collaborative outreach project of the Metro Watershed Partners. Working together, we provide resources, training, and support to partners as they work to inspire homeowners in the Twin Cities metro area to keep water clean and healthy.

The steering committee of the Metro Watershed Partners oversees the work of Clean Water MN. Jana Larson from Hamline University manages campaign fundraising and the creation and implementation of communication and outreach programs. As part of this work, we regularly ask stakeholders to tell us how to best serve the needs of MS4s.

Cleanwatermn.org features seasonally appropriate stories about metro area residents taking action at home and in their lives to keep Minnesota water clean and healthy. The stories are designed for partners to use in their own communications—via websites, Facebook, Twitter, newsletters, and such.

Along with each story we create a suite of professional photographs, accessible to partners online for use in their own stories and publications. Additionally, each story links to informational resources on our own site and other websites. In 2019 we published 12 new stories.

The cleanwatermn.org website also features informational pages, calls to action, a “Find My Watershed” map, information about the partnership, educational resources, and a list of our partners. We will continue to develop and add content to the site in 2020 and beyond.

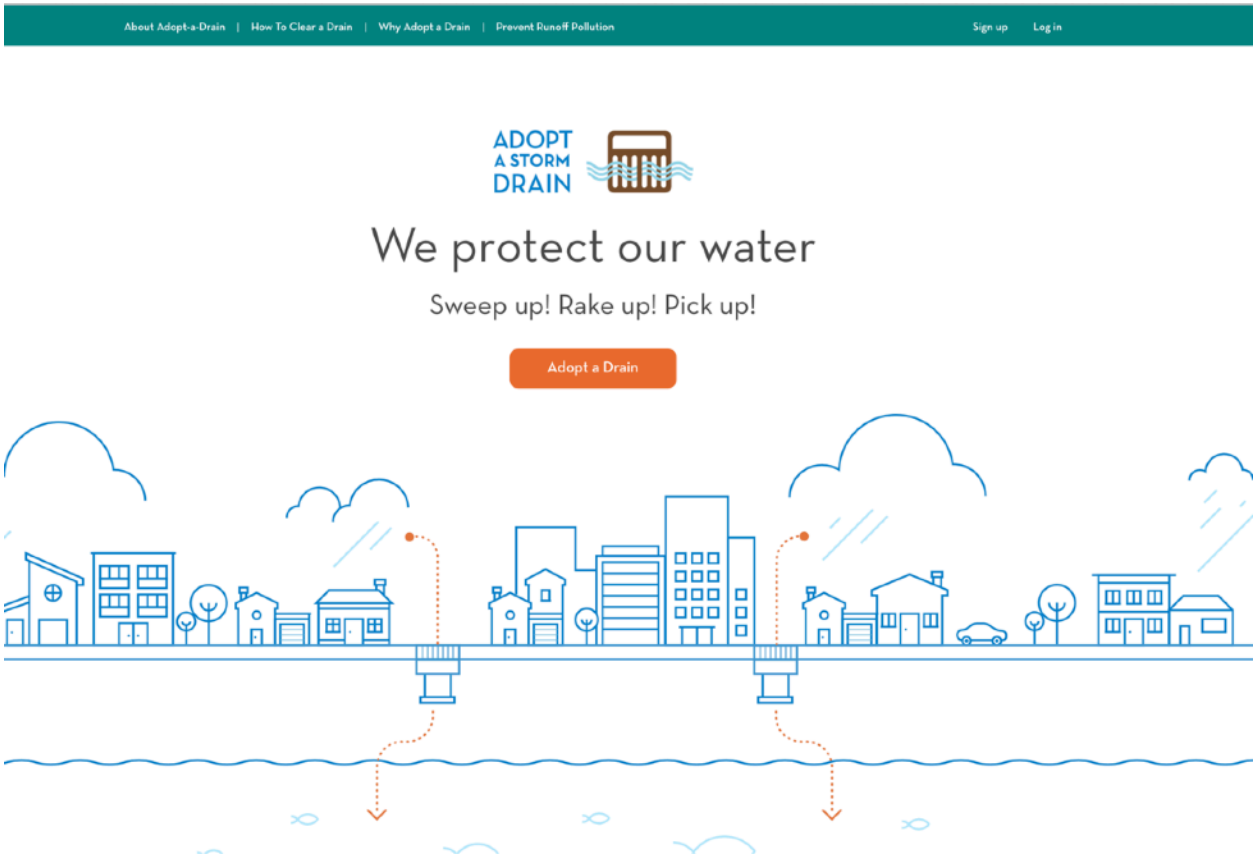
Campaign Analytics

In order to provide some measure of the impact of our work, we have created a system of unique, trackable links for our partners to use when they publish a story from Clean Water MN. This allows us to measure click-through rates to CleanWaterMN.org for each partner individually. Below you will find a summary of these analytics, which paint a general picture of engagement with each story. These numbers do not reflect, however, the total number of readers for any given story, since trackable links are not always used, and some readers may not click on the link to read the full story. Analytics reports with a breakdown for each partner can be found at: http://bit.ly/2rxvGE6

Month	Blog Title	Total sessions	New users	Average duration
January	GreenCorps Fight to Keep Salt Out of Minnesota Lakes	350	292	0:00:52
February	Bloomington Public Schools Improve Safety and their Bottom Line with Anti-icing Strategies	700	641	0:00:43
March	Announcing the Nation's Largest Adopt-a-Drain Program	274	227	0:01:12
April	Transform Your Yard into a Monarch Oasis	671	581	0:00:38
May	Bee-friendly Yard Becomes Neighborhood Sanctuary	342	247	0:00:56
June	Paddling to Protect the Mississippi	193	146	0:00:34
July	Smart Irrigation Reduces Water Waste	128	99	0:00:16
August	Blaine's Wetland Restoration Revives Endangered Species	1,252	1,038	0:03:22
September	Fighting to Understand Bees in Decline	1,508	1,254	0:02:04
October	Brooklyn Park Wetland Preservation Fosters Community	1,334	1,124	0:01:51
November	Cleaning the Streets Before the Snow Flies	1,229	1,082	0:02:23
December	A Song to Sweep to from Frassati Academy	1,120	929	0:02:13
Total click-throughs to CWMN site		9,101	7,660	

Clean Water MN News and Accomplishments in 2019:

As promised, **Adopt-a-Drain launched a new website at adopt-a-drain.org** and the **program became available to all residents in the metro** area in March.



The program launch resulted in **good press coverage** for Adopt-a-Drain, including stories in the Saint Paul Pioneer Press, on Kare 11 evening news, Minnesota Public Radio (spring and fall stories), and in several local papers. During the State Fair, the Adopt-a-Drain booth was featured live on Fox 9.

Program membership almost tripled in the first year to nearly 6,000 participants, and in early January of 2020 we hit a major milestone: **10,000 storm drains are now adopted in the metro area!**

Throughout the year, Adopt-a-Drain participants were encouraged to report their work online via a monthly email newsletter. In early January, we sent a postcard to all participants who had not yet reported, and received an additional 500 responses. As a result of this outreach, the reporting rate increased from 30% to 40%.

Adopt-a-Drain staff have the opportunity to communicate directly with participants of the program, communicating with an average of 5-20 participants per week, to answer questions about stormwater issues and connect them with resources in their community.

The **Adopt-a-Drain program launched in Rochester** in the summer, where it also received news coverage in the newspaper and on TV. Since July, 127 Rochester residents have adopted 210 storm drains.

In Spring of 2020, Adopt-a-Drain will launch in Saint Cloud.

Customizable print and electronic resources for promoting Adopt-a-Drain and Community Cleanups were created in multiple formats and made available for download to partners on the "For Partners" page of CleanWaterMN.org. These resources include: direct mail postcards, utility bill inserts, door hangers, promotional flyers, billboards, and images with logos for posting to social media.

We continued to work with **researchers at the University of Minnesota's Center for Changing Landscapes on an in-depth baseline study of Adopt-a-Drain in Minneapolis** focused on understanding how to promote and implement Adopt-a-Drain so that it resonates with underserved communities. This research also includes the evaluation of a pilot program for businesses and community organizations. This multi-faceted evaluation project, funded by the City of Minneapolis, will wrap up in April 2020. A presentation of study findings will be given at an upcoming Watershed Partners meeting.

Adopt-a-Drain on Facebook, Twitter and Instagram

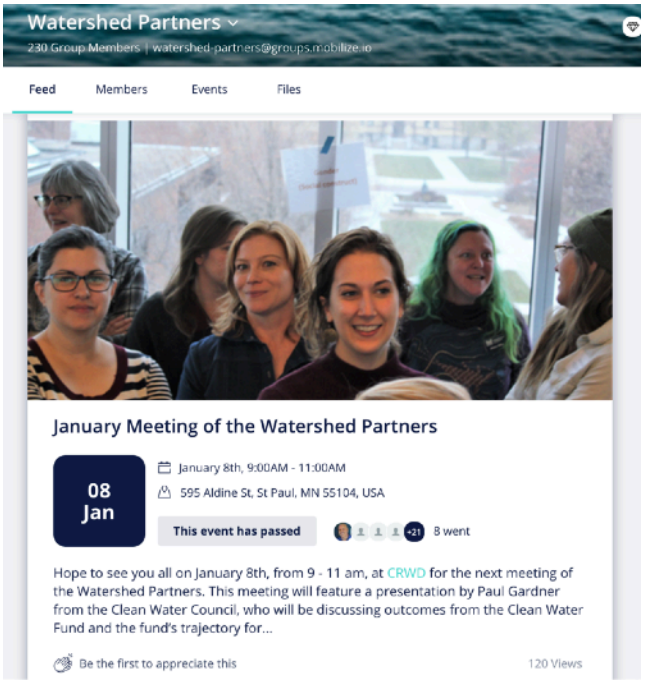
In August we launched Adopt-a-Drain pages on Facebook, Twitter and Instagram and have been posting new content to almost every day. From August to December, the Facebook page gained more than 300 followers.

Over this five month period, there were more than 5,000 engagements on our Facebook posts, including likes, shares and comments. Our posts reached a total of 59,744 people, mostly through organic reach, including shares by our partners.

Follow us! Like us! Share our posts!

https://www.facebook.com/AdoptaDrainMN/
https://www.instagram.com/adoptadrain/
https://twitter.com/adoptadrainmn

Watershed Partners listserv



The Metro Watershed Partners listserv is a forum for watershed educators, legislators and industry professionals throughout the state to share information and resources.

In 2019, the listserv moved to Mobilize, an online interactive communications platform for discussions, chat, events, files, and networking that is accessible online, via email, or mobile app.

The listserv is now hosted at:
https://watershedpartners.mobilize.io

Messages can posted online to a feed or sent via email:
watershed-partners@groups.mobilize.io

There is a connected subgroup of the listserv for Adopt-a-Drain administrators from member cities and watershed districts to share information and resources at:
adopt-a-drain-user-group@groups.mobilize.io

These are private forums and anyone who would like to be added to either Mobilize group must send an email request to jlarson25@hamline.edu

In 2019, the Metro Watershed Partners listserv continued to provide more than two hundred user-members with an effective tool to promote educational programs, share information about professional programs, and exchange information with other watershed educators, legislators and businesses.

2019 Accomplishments of the Metro Watershed Partners

Networking and Sharing Resources

The Watershed Partners hold monthly meetings that provide members a way to gather, share information, generate ideas, and form partnerships that support watershed education in the state of Minnesota. These meetings keep our members up to date on new developments in the field of water resources and water education by featuring presentations by experts in fields such as watershed management, education, marketing, legislation and outreach.

In 2019, the Watershed Partners held 11 meetings. An average of 35 - 40 partners attended each meeting; more than 50 attended our June field trip to Minnehaha Falls and 70 came to the November roundtable. We're pleased to see that partners continue to value our meetings, and demonstrate energy for collaboration and information sharing; we plan to continue offering workshops and events our partners will find useful in 2020 and beyond.

2019 PARTNER MEETINGS — TOPICS AND PRESENTERS

January	The Visionary RiverFirst Initiative	Tom Evers, Minneapolis Parks Foundation
February	Integrating Pollinator Protection into Clean Water and Habitat Projects	Brianna Gohde, Ramsey County Master Gardener, Dan Shaw, Senior Ecologist and Vegetation Specialist with the Minnesota Board of Water and Soil Resources, Tara Kelly, Washington Conservation District
March	Legislative Update	Steve Woods of Freshwater
April	Community-centered urban water planning	Mae Davenport, U of M Center for Changing Landscapes
May	Moving Communities to Action	Patience Caso, Hennepin County
June	Planning for climate resiliency	Adam R. Arvidson, Minneapolis Park and Recreation Board, Lisa Goddard, City of Minneapolis, Tiffany Schaufler, Minnehaha Creek Watershed District
August	Tour of Blaine Wetland Restoration Project	Jason Husveth, Critical Connections Ecological Services and Rebecca Haug, City of Blaine
September	Proposed MS4 Permit Requirements & Water Story Circle Presentation	Chakong Thao and Samantha Connolly from MPCA & Shanai Matteson from Water Bar and Kris Meyer from Freshwater
October	The Ongoing Intensification of the Metro Area Hydroclimate	Kenny Blumenfeld, Minnesota State Climatology Office
November	Building an Inclusive Education Program for Your Organization and Community	Arnoldo Curiel of Dakota County, Yordi Solomone of Metro Blooms, Marcy Syman of Metropolitan Council
December	Water Story Circle	Shanai Matteson, Water Bar, Yordi Solomone, Metro Blooms, Lilah White, Metro Blooms, Jewell Arcoren, Healing Place Collaborative, and Angelo Williamson

Education and Outreach at the Minnesota State Fair

2019 was another record year for the state fair, with total attendance breaking 2.1 million visitors. The Watershed Partners hosted an exhibit in the Eco-experience where approximately 267,000 people were exposed to our message about taking action to protect Minnesota's lakes and rivers.

The Metro Watershed Partners partnered with Hamline University to host the Adopt-a-Drain photo booth and exhibit at Eco Experience. The exhibit features: an Adopt-a-Drain photo booth, air hockey, foosball, an Adopt-a-Drain sign-up station, a video table with in-depth interactive information about the Mississippi River, and three portable tabletop exhibits focused on the science of Eutrophication, taking action to reduce run-off, and the urban water cycle. Together, these exhibits raise awareness about the importance of protecting water in Minnesota and ask people to commit to take action at home to prevent run-off pollution. For the first time this year, the exhibit provided a chance for visitors to formalize their commitment by signing up to adopt a drain.

There were more than 267,000 visitors to the Eco-experience in 2019. Approximately 8,700 of them took a photo in the Adopt-a-Drain photo booth. (We took and printed 3,519 photos during the fair, with an average of 2.5 people per photo.) 50% of photos were shared via email or text.

Over the twelve days of the fair, 731 Minnesota residents from 70 cities signed up to adopt a storm drain. Those who adopted a drain were able to take home an informational packet and a small yard sign that reads “We Protect Minnesota Lakes, Rivers and Wetlands.”

In addition to staff hired by Hamline, there was a Watershed Partner or Master Water Steward present during 76 of the 144 hours of the fair, to interact with the public, answer questions, and promote water-friendly behaviors.

Thank you for all your help making the exhibit a success!

Education and Outreach at Community Events:

Throughout the year, the Metro Watershed Partners make our tabletop exhibits available free of charge to organizations doing education and outreach on non-point source pollution and preservation of clean water. If you are interested in checking out one of our kiosks or table-top exhibits (see below) for an event in your community, you can find more information and a check-out form at: https://www.cleanwatermn.org/resources-for-partners/exhibit-check-out/

Exhibit-in-a-Box on Eutrophication.

2019 Financial Report

In response to our fundraising requests, 52 supporting members contributed: $40,337.51 to the Watershed Partners in support of meetings, state fair outreach, administration, exhibit maintenance, development and checkout; and $136,612.49 to support Adopt-a-Drain, the Clean Water MN website and public outreach campaign.

Supporting Members of the Metro Watershed Partners, Adopt-a-Drain, and the Clean Water MN Media Campaign in 2019

Andover
Bassett Creek WMC
Blaine
Bloomington
Brown's Creek WD
Cannon River WP
Capitol Region Watershed District
Carver County
Circle Pines
Columbia Heights
Comfort Lake-Forest Lake WD
Crystal
East Metro Water Resources
Eden Prairie
Edina
Elm Creek WMC
Excelsior
Faribault
Fridley
Hastings
Hennepin County
Hopkins
Lauderdale
Lower Mississippi River WMO
Middle St. Croix WMO
Minneapolis
Minnehaha Creek WD
Minnetonka
Mississippi NRRA
Mound
New Brighton
Nine Mile Creek WD
Pioneer-Sarah Creek WC
Prior Lake
Ramsey-Washington Metro WD
Rice Creek WD
Richfield
Riley Purgatory Bluff Creek WD
Rochester
Roseville
Saint Louis Park
Saint Paul
Shingle Creek WMC
Shoreview
South Washington WD
Vadnais Lake Area WMO
Vermillion River Watershed JPO
Washington Conservation District
Wayzata
West Mississippi WMC
White Bear Lake
Woodbury

Clean Water MN/Watershed Partners 2019 Financial Report

	IN-KIND	CASH	TOTAL
REVENUE			
CWMN funds rollover		$2,236.68	$2,236.68
Watershed Partners coordination	$53,800.00	$35,390.00	$89,190.00
Watershed Partners exhibit	$22,000.00		$22,000.00
Media campaign	$5,500.00	$141,560.00	$147,060.00
Total revenue	**$81,300.00**	**$179,186.68**	**$260,486.68**
EXPENSE			
1. Watershed Partners Coordination			
Principle Investigator	$2,500.00	$4,500.00	$7,000.00
Program Coordinator	$12,000.00	$12,000.00	$24,000.00
Steering Committee	$32,400.00		$32,400.00
Meeting room rental fees	$4,500.00		$4,500.00
Technology maintenance	$1,829.31	$570.69	$2,400.00
Meeting expenses		$814.69	$814.69
Postage and printing		$30.24	$30.24
Subtotal	**$53,229.31**	**$17,915.62**	**$71,144.93**
2. Watershed Exhibit Implementation			
Exhibit coordination	$4,500.00	$5,500.00	$10,000.00
State fair expenses		$16,921.89	$16,921.89
Storage and check-out	$5,000.00		$5,000.00
Subtotal	**$9,500.00**	**$22,421.89**	**$31,921.89**
3. Clean Water MN			
Campaign coordination	$5,500.00	$20,000.00	$25,500.00
Printing and postage		$213.69	$213.69
Blog writing and photography		$9,550.00	$9,550.00
Web hosting and maintenance		$1,680.38	$1,680.38
Graphic design		$4,560.00	$4,560.00
Focus group research		$0.00	$0.00
Meeting expenses		$332.82	$332.82
Cleanup kit resources			$0.00
Subtotal	**$5,500.00**	**$36,336.89**	**$41,836.89**
4. Adopt-a-Drain			
Site license		$30,000.00	$30,000.00
Program coordination		$20,000.00	$20,000.00
Program implementaion		$16,158.00	$16,158.00
Social media and communications		$14,451.43	$14,451.43
End of year mailing		$3,890.00	$3,890.00
Subtotal	**$0.00**	**$84,499.43**	**$84,499.43**
TOTAL	**$68,229.31**	**$161,173.83**	**$229,403.14**
ADMINISTRATION FEE		$12,893.91	$12,893.91
TOTAL	**$68,229.31**	**$174,067.74**	**$242,297.05**
ROLLOVER TO 2020		$5,118.94	

Clean Water MN/Watershed Partners 2020 Budget

	IN-KIND	CASH	TOTAL
REVENUE			
CWMN funds rollover		$5,118.94	
Watershed Partners coordination	$53,800.00	$23,993.00	$77,793.00
Watershed Partners exhibit	$22,000.00	$20,321.00	$42,321.00
Media campaign	$5,500.00	$41,273.00	$46,773.00
Adopt-a-Drain		$101,318.06	
Total revenue	$81,300.00	**$192,024.00**	$166,887.00
EXPENSE			
1. Watershed Partners Coordination			
Principle Investigator	$2,500.00	$6,000.00	$8,500.00
Program Coordinator	$12,000.00	$13,000.00	$25,000.00
Steering Committee	$32,400.00		$32,400.00
Meeting room rental fees	$4,500.00	$1,200.00	$5,700.00
Technology maintenance	$1,400.00	$1,000.00	$2,400.00
Meeting expenses		$2,000.00	$2,000.00
Postage and printing		$200.00	$200.00
Subtotal	$52,800.00	**$23,400.00**	$76,200.00
2. Watershed Exhibit Implementation			
Exhibit coordination	$4,500.00	$5,000.00	$9,500.00
State fair expenses		$15,000.00	$15,000.00
Storage and check-out	$5,000.00		$5,000.00
Subtotal	$9,500.00	**$20,000.00**	$29,500.00
3. Clean Water MN			
Campaign coordination	$5,500.00	$22,000.00	$27,500.00
Printing and postage		$400.00	$400.00
Blog writing and photography		$4,000.00	$4,000.00
Web hosting and maintenance		$2,000.00	$2,000.00
Graphic design and video production		$10,000.00	$10,000.00
Focus group research			$0.00
Meeting expenses		$1,000.00	$1,000.00
Cleanup kit resources			$0.00
Subtotal	$5,500.00	**$39,400.00**	$44,900.00
4. Adopt-a-Drain			
Site license		$30,000.00	$30,000.00
Program coordination		$25,000.00	$25,000.00
Program implementaion		$14,000.00	$14,000.00
Social media and communications		$20,000.00	$20,000.00
End of year mailing		$6,000.00	$6,000.00
Subtotal	$0.00	**$95,000.00**	$95,000.00
TOTAL	**$67,800.00**	**$177,800.00**	**$245,600.00**
ADMINISTRATION FEE		$14,224.00	$14,224.00
TOTAL	**$67,800.00**	**$192,024.00**	**$259,824.00**

Adopt-a-Drain in St. Paul, 2019

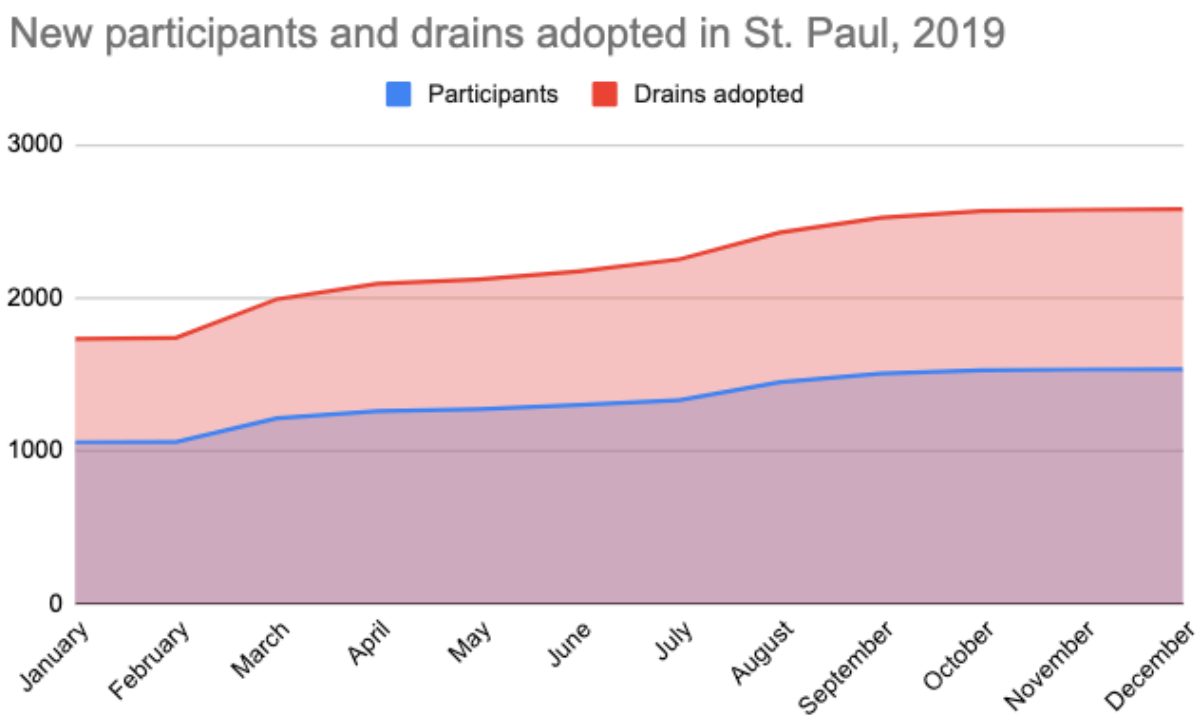
Annual Report

479
new participants in 2019

851
drains adopted in 2019

1,534
total participants

2,582
total adoptions



Reporting Data

336 St. Paul participants reported cleanings, which represents 21.9% of all St. Paul participants.

St. Paul participants collected 17,190.7 lbs of debris from their adopted storm drains in 2019.

Debris Type	Amount (lbs)
Brown leaves	10,344.2
Grass and green leaves	2,848.9
Sediment and dirt	5,449.7
Trash	773.4
Salt	55

Month	New participants	Drains adopted	Debris collected (lbs)	Time spent (hours)
January	2	2		
February	2	6		
March	155	253	651.1	24.1
April	46	100	1,448.6	19.0
May	13	30	2,924.9	40.8
June	28	52	655.2	13.6
July	30	79	2,029.4	46.7
August	120	175	1,259.2	20.6
September	54	98	1,663.5	34.0
October	22	43	4,472.7	49.3
November	5	7	1,436.5	13.5
December	2	6	649.6	12.5
TOTALS	**479**	**851**	**17,190.7**	**274.1**

Geographic Breakdown: Watershed

Watershed	Drains adopted	Debris collected (lbs)	Time spent (hours)
Capitol Region	2,175	17,755.4	274.1
Ramsey-Washington Metro	323	1,570.3	28.2
Lower Mississippi River	81	93.5	1.1
Rice Creek	10	52	0.5

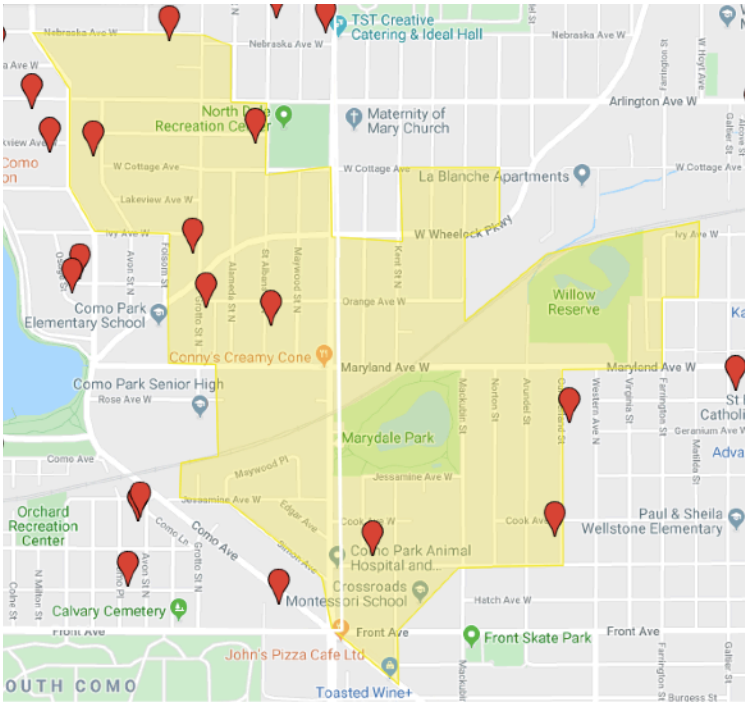
Geographic Breakdown: Watershed and Subwatershed

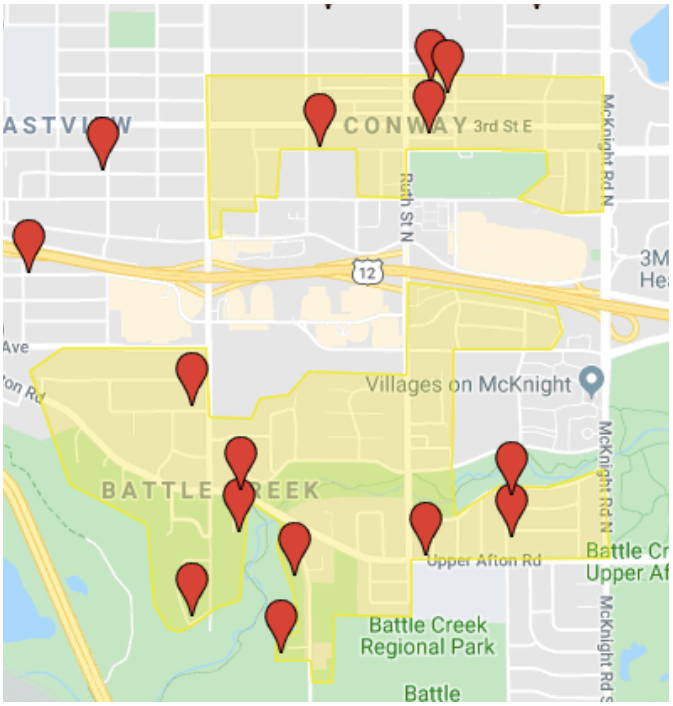
Subwatershed	Drains adopted	Debris collected (lbs)	Time spent (hours)
Mississippi River (CRWD)	351	4,370.3	50.2
Como Lake	300	3,631.3	45.2
Trout Brook (City of St. Paul)	269	2,182.5	42.9
St. Anthony Park towards the Mississippi River	235	1,381.2	20.8
St. Anthony Hill towards the Mississippi River	220	1,804.4	44.1
East Kittsondale routes to Mississippi River	220	2,093.8	26.7
West Kittsondale routes to Mississippi River	160	746.2	15.5
Davern St and routes to Mississippi River		406.2	8.8
St. Paul Beltline pipe to the Mississippi River	134	602.2	9.3
Lake Phalen	108	824.8	14.2
Phalen Creek	86	177.5	4.3
City of St. Paul-Mississippi River	81	93.5	1.1
Crosby Lake	71	469.5	6.3
Goodrich-Western routes to Mississippi River	58	155.4	3.5
Battle Creek	54	110.9	2.3
Downtown Subwatershed routes to Mississippi River	49	242.9	4.7
West Seventh towards the MIssissippi River	20	34.2	1.0
Mississippi River Bottomlands	19	75.7	1.1
Urban Subwatershed towards the Mississippi River	18	2	0.5
Blufflands	13	41.6	1.1
Beaver Lake	7	25.1	0.4
Wakefield Lake	1	0	0.0
Fish Creek	1	0	0.0

Doorhanging Summary

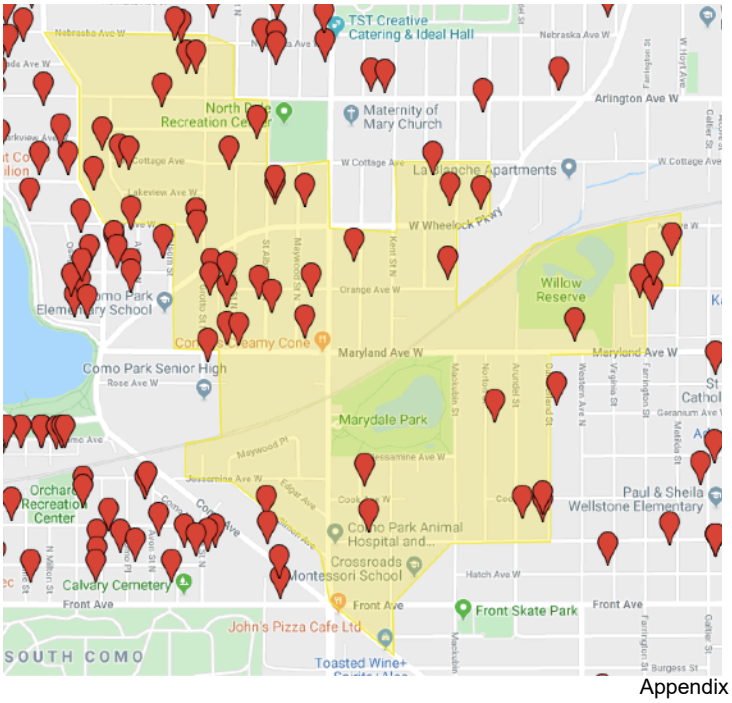
In spring and early summer, Hamline student workers delivered 1,100 doorhangers to homes surrounding Willow Reserve in the North End neighborhood, and 1,300 doorhangers to homes in the Battlecreek subwatershed.

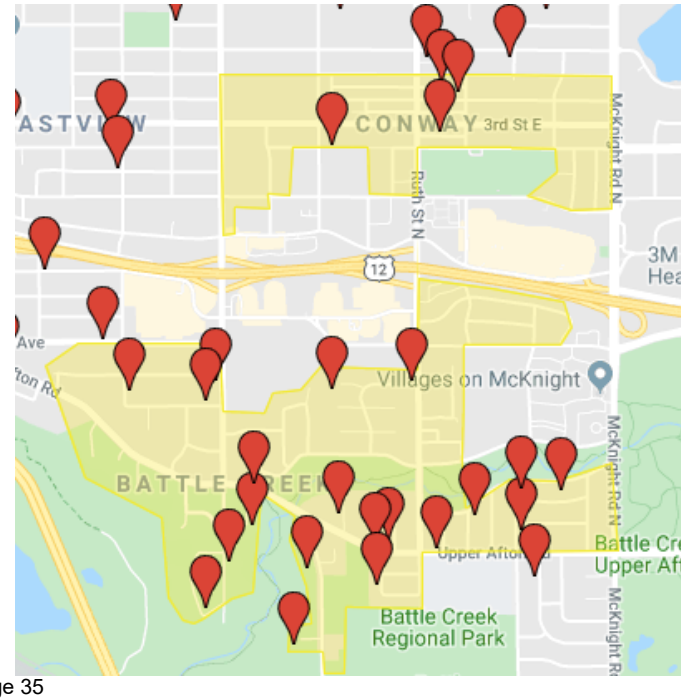
8 new participants signed up in the Willow Reserve area, and 13 new participants signed up in the Battlecreek subwatershed.





Including participants from past years, there are 43 participants in the Willow Reserve area, and 25 in the Battlecreek subwatershed.





Mailings and Signs Summary

The City of St. Paul sponsored the mailing of 200 welcome packets and delivery of 200 signs to participants for 2019. In total, 362 signs were delivered to St. Paul participants.

Saint Paul (Total: 362)
- Capitol Region: 302
  - Mississippi River: 274
  - Como Lake: 28
- Ramsey-Washington: 47
  - Mississippi River: 38
  - Lake Phalen: 8
  - Beaver Lake: 1
- Lower Mississippi: 13

186 of the signs sponsored by the City were delivered in 2019. (150 in CRWD, 23 in RWMWD, and 13 in LMRWMO.) The City will be credited the cost of the remaining 14 signs in 2020.

Note: 125 St. Paul participants signed up at the Minnesota State Fair and were given a welcome packet and a generic “We protect Minnesota lakes, rivers and wetlands” sign. These sign-ups are not counted toward the mailings and sign delivery for the City of St. Paul.

FRIENDS OF THE MISSISSIPPI RIVER

Working to protect the Mississippi River and its watershed in the Twin Cities area.

101 East Fifth Street
Suite 2000
Saint Paul, MN 55101

651-222-2193
www.fmr.org
info@fmr.org

St. Paul Water Quality Education Project- 2019 Final Report
Submitted by Friends of the Mississippi River
11/26/2019

This report summarizes Friends of the Mississippi River's activities in fulfillment of our 2019 Water Quality Education Program contract with the City of St. Paul. The Program Objectives were:

1. To involve St. Paul residents and community members in hands-on learning experiences about urban runoff pollution and ways to prevent it.
2. To facilitate school service-learning initiatives including storm drain stenciling, litter cleanups and/or habitat restoration as key components.
3. To stencil storm drains with the message "Keep 'em Clean - Drains to River," and distribute educational door-hangers to residents and businesses in the stenciled neighborhoods.

These objectives were met through four key program areas, which are described in greater detail in this report:

1. Storm drain stenciling and cleanups
2. Extra education
3. Storm drain mural installation
4. Community educational workshops and events

What follows are descriptions of activities, outreach and promotion efforts, and specific accomplishments for each program area.

STORM DRAIN STENCILING

Description:

Storm drain stenciling is a service-learning program in which community volunteers receive a 15-30 minute lesson about urban runoff pollution and ways to prevent it, then spray paint the message "Keep 'em Clean – Drains to River" next to storm drains on St. Paul city streets. Volunteers also distribute educational door hangers and pick up trash along their way. This year FMR housed three stenciling kits/bins available for check out to groups of less than 15 people. These kits provide all of the supplies to stencil as well as educational materials, however these groups do not receive the 15-30 minute presentation. In addition

to stenciling outings, FMR also coordinates 2-3 litter-cleanups/invasive species pulls within the city each year.

Outreach:

In 2019, storm-drain stenciling and cleanups were promoted using the following means:

- Emailing previous years' stenciling participants
- Contacting past participants and potential new contacts (St. Paul schools, after-school programs and service-learning programs)
- Announcement at Big River Journey teacher trainings in February and August 2019
- Posting on FMR's website, social media (Facebook, Instagram and Twitter pages), as well as announcements in FMR's email newsletter, *Mississippi Messages*
- Postings on other volunteer websites including VolunteerMatch, TwinCities.com/Pioneer Press, Patch, Do It Green, Minnesota Master Naturalists, All for Good, and Idealist.

Accomplishments:

Stenciling:

Kate Clayton (Youth Coordinator) and Daurius Mikroberts (Program Assistant) for Friends of the Mississippi River facilitated storm drain stenciling outings with 39 school and college groups, community groups, corporations and residents of the City of St. Paul. A list of the 39 groups, with event dates and goals achieved, is attached at the end of this report.

1,144 volunteers stenciled 2,521 storm drains and distributed 7,686 educational door hangers within the city, for a total of 2,203.5 hours of volunteer work. Stenciling took place in a majority of St. Paul neighborhoods. A map of specific locations is included at the end of this report.

Cleanups:

The interest in cleanups seems to vary widely from year to year. In 2019 FMR facilitated three groups with a total of 115 people, contributing 222 hours in cleanups around St. Paul. A list of groups, with event dates and goals achieved, is attached at the end of this report. For these outings, FMR provided general education, trash bags and gloves as well as coordinated with the City of St. Paul Parks and Recreation Department.

In total, FMR engaged 1,259 volunteers for 2,425.5 hours in cleanup and stenciling outings in 2019. This year FMR met and surpassed the goals for total number of volunteers (1,000), volunteer hours (1,500), drains stenciled (2,200) and door hangers distributed (6,500).

Unfortunately, there was poor weather much of the event season this year. 12 scheduled stenciling outings were canceled due to weather or by group leaders for various reasons. One of these outings became a talk about water quality; however, this had an impact on the number of volunteers and the success of working toward our goals. Because a similar number of hours are spent on planning an outing whether or not that outing is canceled, these cancellations also lead to a higher ratio of program-hours/volunteers.

All of the feedback from the participants' survey was positive. The program is well received, educational and productive. 100% of survey respondents think that the stenciling program is a good teaching tool and 100% rated their experience with FMR as good or excellent. Most of the survey respondents also express an interest in continuing to work with FMR to learn more about water quality.

Equipment:

FMR staff coordinated the purchase, storage and maintenance of storm drain stenciling supplies for the 2019 season. Below is an inventory of supplies remaining at the end of the 2019 season. See previous reports for a comparison with prior years.

Equipment:
Gloves: Plenty
Clipboards: 27
Goggles: Plenty
Full paint cans: 47
Partial paint cans: 20
Brushes: 39
Vests: 64
Cones: 28
Buckets: 13
Trash Bags: Plenty
Flyers/Door Hangers: ~7,000

Stencils:
Drains to River: 46
Drains to Creek: 23
Drains to Lake: 39
Hmong language: 7
Somali language: 12

EXTRA EDUCATION

Description:

Additional water-quality education programming, separate from the lessons included in storm drain stenciling outings, is provided to schools and community groups in multiple formats including classroom presentations, interpretive field trips, participation in special events (i.e. the Children's Water Festival) or through tabling at local fairs, expos or locations. Each educational program includes information about urban runoff pollution and methods for its prevention, but additional topics may include the water cycle, watersheds, erosion, wetlands, river ecosystems, landscape change, and habitat restoration. These presentations are designed to increase knowledge of urban non-point source pollution and related environmental issues, and may include demonstrations, PowerPoint presentations, games and/or group discussions. This year we also engaged students outside of the classroom on invasive species removal and monitoring in St. Paul parks. Kate Clayton primarily provided extra education, with assistance from Daurius Mikroberts.

Outreach:

In 2019, extra educational programs were promoted using the following means:

- Emailing previous years' stenciling participants

- Contacting past participants and potential new contacts (St. Paul schools, after-school programs and service-learning programs)
- Announcement at Big River Journey teacher trainings in February and August 2019

Accomplishments:

This year, FMR coordinated 29 classroom presentations, participated in 2 special events (Children's Water Festival at the State Fair Grounds and the Beaver Lake Neighborhood Celebration), and held 4 restoration and monitoring outings with 4 classroom groups. In total we provided extra education for 895 participants in the City of St. Paul. Classroom lessons averaged 1 hour. A list of the schools and participants is attached to the end of this report.

Storm Drain Mural

Building on the successful storm drain mural work in 2017 and 2018, FMR contracted with artists Liv Novotny and Violeta Rotstein in 2019. We worked with Ramsey-Washington Metro Watershed District to schedule a community workshop in the Phalen neighborhood, and we also visited classrooms at French Immersion Magnet School in the fall of 2018. Liv created a design based on input from the workshop and classroom visits.

We installed the mural at this year's Waterfest at Lake Phalen. Liv and Violeta painted with help from students from Urban Roots, and some festival-goers.

- 2/21/2019: Mural workshop (5 attendees)
- 6/1/2019: Painting Day

COMMUNITY EDUCATION WORKSHOPS AND EVENTS

Description:

FMR hosted two community education workshops or stenciling outings open to the public in 2019. Each event provided attendees with background on river pollutants coming from our homes, yards, and streets or developed areas, and encouraged water-friendly actions for individuals to take to improve water quality.

Stewardship & Education Program Director Adam Flett coordinated all of the educational workshops and events, with assistance from other FMR staff.

The workshops and stenciling outings included continued development of our River Friendly Homes and Gardens workshops (updating information on the impact of storm water pollutants on water quality, best practices for rain garden design and installation, benefits and techniques for composting in residential yards and gardens, rain barrel assembly, installation and use, watershed-friendly lawn care strategies, and local resources related to these topics). Much of the messaging is crafted around quick, memorable items that individuals can take home, making them more easily interjected under shorter formats for presenting, like those of the stenciling events. Staff also updated a host of printed materials on these topics that were distributed at the workshops.

Specific descriptions of each event follow.

Brewing Clean Water and Storm Drain Stenciling:

In the past the Brewing Clean Water program focused on presenting information within the brewery setting. Starting in 2017, FMR began to offer storm drain stenciling as the primary activity in addition to providing the educational aspect. This past year, FMR hosted 1 storm drain stenciling events for the public. As part of another FMR program, "Brewing Clean Water," enables FMR and Brewer's to unite around clean water interests and provides a new venue for delivering our message to new and old FMR participants.

- Tin Whiskers Brewing Company, July 29, 2019 (17 participants)

River Friendly Homes and Gardens - Make and Take Rain Barrel Workshop:

Much of the workshop focuses on conserving water and reducing runoff pollution. In addition to providing an overview of stormwater issues related to urban runoff pollution, the workshop introduces alternative lawn-care practices, landscaping with native plant species, proper use of lawn fertilizer, rain gardens, rain barrels, backyard composting, green roofs, pervious pavement, soil testing and more. Participants are provided with handouts listing local resources for additional education, cost-share programs, or purchasing supplies. The workshop was presented at the following venues. These also have a specific focus on rain barrels and provides an opportunity for participants to assemble and take home their own 55-gallon rain barrel. The barrels were donated by Coca-Cola, and conversion kits were purchased at a reduced price by workshop participants. Participants were then guided through assembling their own rain barrel, which they took with them to install and use at home. The workshop was presented at the following venue:

- Wellstone Center/Neighborhood House June 26, 2019 (34 participants, 30 barrels)

Outreach:

Participants for the workshops and outings were recruited using the following means:

- Email or posts to various daily and community newspapers both print and online
- Posting on FMR's website and announcements in FMR's Mississippi Messages and through social media, including Facebook and Instagram
- Posting on various online event calendars: Minnesota Environmental Partnership, TwinCities.com/PioneerPress, Do It Green, Northern Gardener, Minnesota Master Naturalist and others.

Accomplishments:

The following table summarizes public event participation in 2019:

Name	Date	Location	# Participants
Make and Take Rain Barrel Workshop	6/26/19	Wellstone Center	34
Storm Drain Stenciling at Tin Whiskers Brewing	7/29/19	Tin Whiskers Brewing Co.	17
Total			51

Photos:

Photo albums of the events listed in this report can be viewed on FMR's Flickr site at the following links:

Storm Drain Stenciling
- https://www.flickr.com/photos/friendsmissriv/albums/72157711552912946

Storm Drain Mural
- https://www.flickr.com/photos/friendsmissriv/albums/72157708896264297

Rain Barrel Workshop:

- https://www.flickr.com/photos/friendsmissriv/albums/72157709278168157

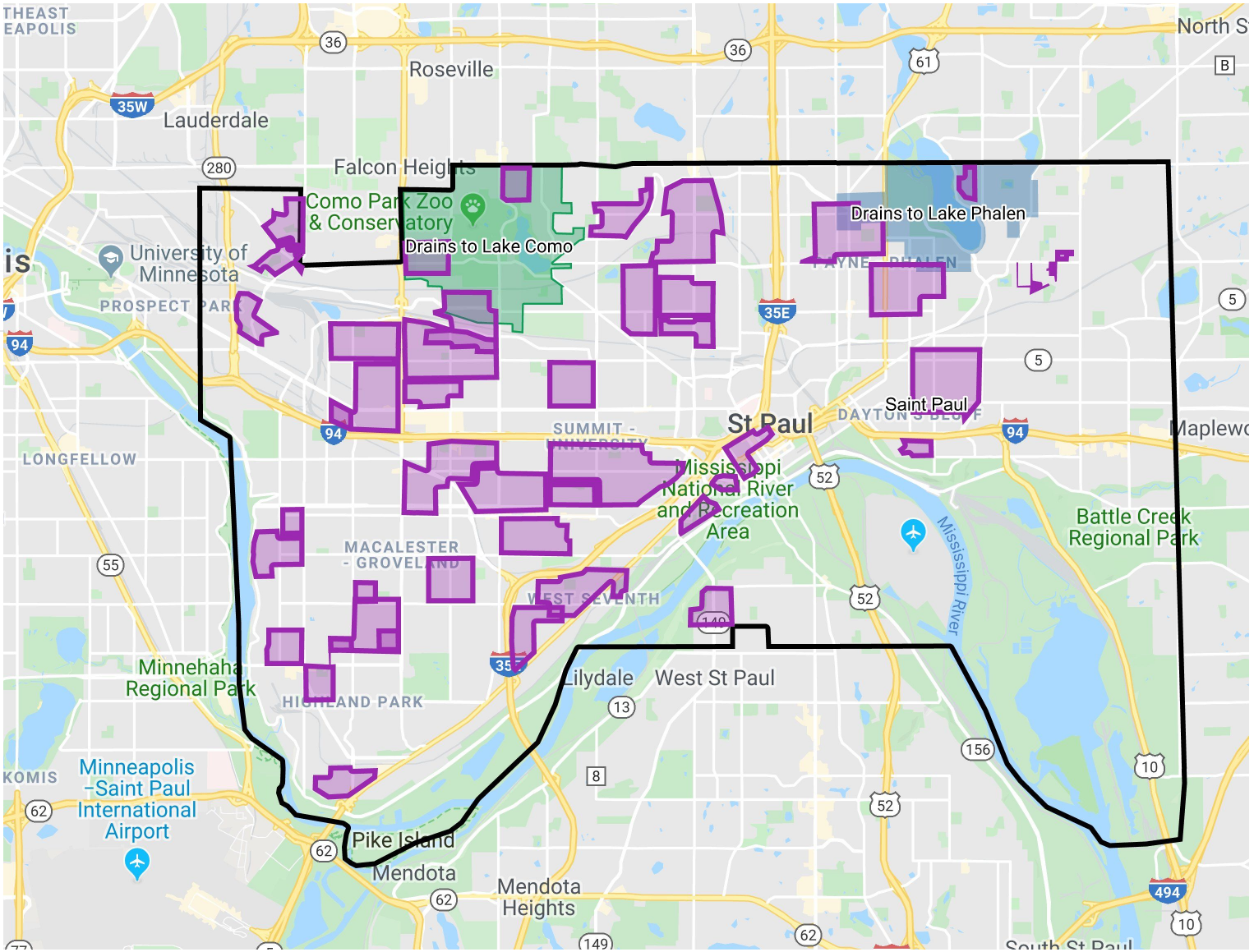
2019 Stenciling Locations

Overlay

- Saint Paul
- Drains to Lake Phalen
- Drains to Lake Como

2019 Stencil Locations

- All items




Drains to River
Storm
Drains
Keep em'
Clean

KEEP THESE OUT OF STORM DRAINS

PET WASTE

Desechos de mascotas

Quav tsiaj yug

LEAVES, GRASS & TRASH

Hojas, hierba y basura

Nplooj ntoos, Nyom & Khib Nyiab

HAZARDOUS WASTES

Residuos peligrosos

Khoom Phem Siv Tas Lawm

MANTENGA FUERA DE LOS DRENAJES PARA TORMENTAS

MUAB COV NTAWM NO TSHEM TAWM NTAWM LUB QHOV DEJ NQIS

Keep storm drains clean. These drains are part of the storm sewer system, which carries rainfall and snowmelt directly from your neighborhood to our lakes and rivers.

What You Can Do

1. Keep leaves and grass clippings out of street.
   Mantenga las hojas y las hierbas o el cesped podados fuera de la calle.
   Muab cov nplooj ntoos thiab nyom tshem tawm ntawm txoj kev.

2. Keep fertilizer off paved surfaces and sweep up excess.
   Mantenga el fertilizante fuera de las superficies pavimentadas y limpie los excesos.
   Txhob muab cov tshuaj ywg nyom tso rau ntawm cov kev luam yas thiab muab cov tshuaj seem cheb mus.

3. Don't litter and pick up pet waste. No arroje basura en la vía pública. Recoja los desechos de sus mascotas.
   Tsis txhob pov khib nyiab. Khaws tej quav tsiaj yug.

4. Wash your car on the lawn or at a carwash - not in the driveway or street.
   Lave su vehículo en el jardín o en un lavadero – no lo haga en el entrada de su casa o en la calle.
   Ntxuav koj lub tsheb rau ntawm cov nyom ntawm koj tog tsev los yog tom lub chaw ntxuav tsheb - tsis txhob ntxuav rau ntawm lub chaw nres tsheb los yog tom kev.

5. Keep your vehicle tuned up and clean up any oil leaks or spills from paved surfaces.
   Mantenga su vehículo en buenas condiciones y limpie cualquier pérdida de aceite o salpicaduras en las superficies pavimentadas.
   Saib xyuas thiab tu koj lub tsheb thiab tu tej roj uas tau txeej los yog nchuav rau tej kev luam yas.

6. Properly dispose of paint and other household hazardous wastes.
   Deshágase adecuadamente de restos de pinturas y de otros residuos domésticos peligrosos.
   Muab cov xim tha thiab lwm cov khoom phem hauv vaj tsev pov tseg kom zoo.

7. Shovel snow first and only apply salt when it is above 15° F.
   Retire la nieve con una pala primero y aplique sal cuando esté sobre los 15ºF.
   Thob daus ua ntej thiab tsuas siv ntsev.

SAINT PAUL
The Most Livable City in America

FRIENDS OF THE MISSISSIPPI RIVER

Recycling & Disposal Guide
ramseyatoz.co.ramsey.mn.us
www.stpaul.gov/publicworks
www.fmr.org

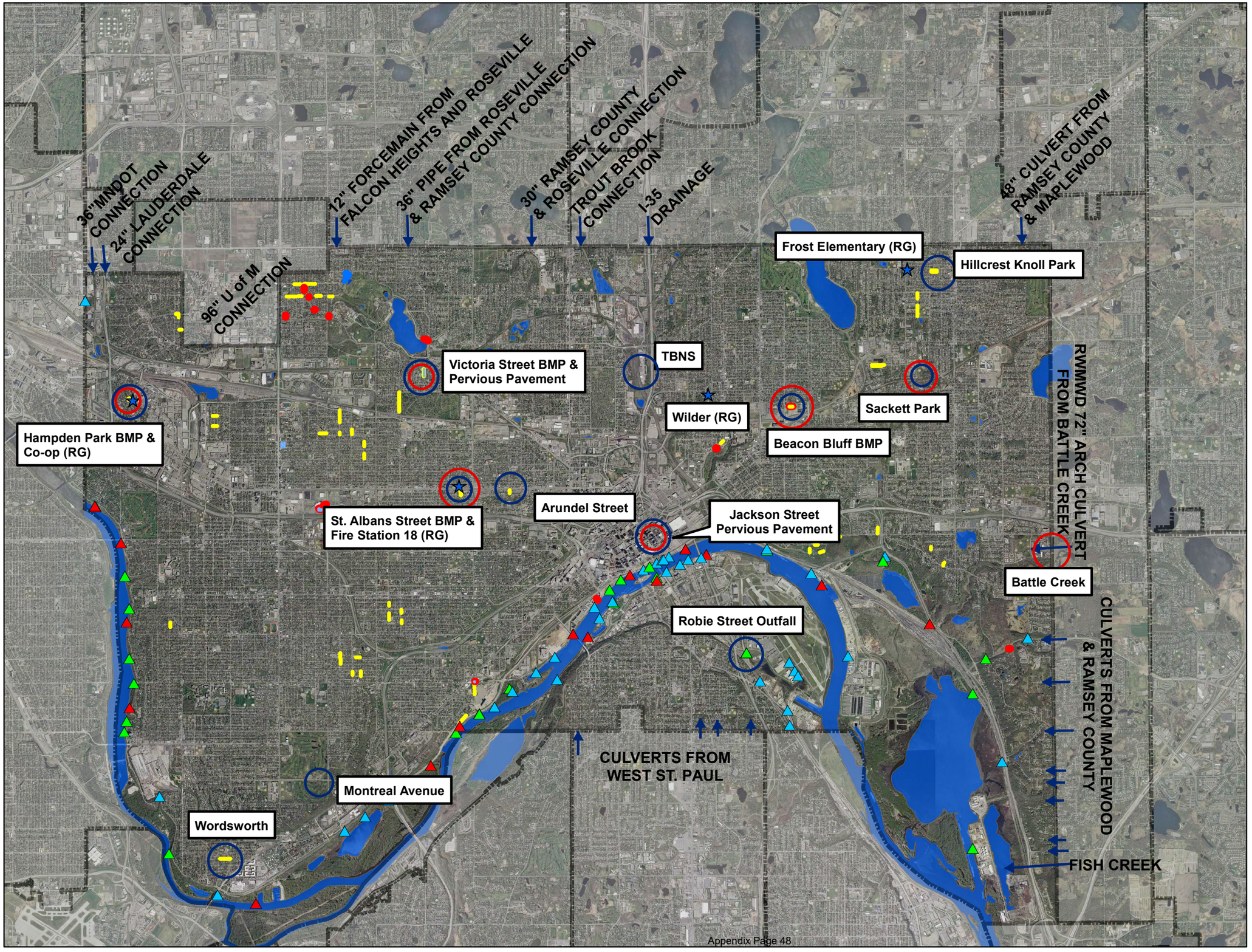
City of St. Paul

2019 **Water Quantity & Quality Monitoring Program**

SAINT PAUL
The Most Livable City in America

Figure 1-1

2019 Monitoring Site Locations



N
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0 2,500 5,000 10,000 Feet

Legend

- Raingarden/Infiltration Basin
- Infiltration Trench
- Pervious Pavement
- Capitol Region Watershed District
- Lower Mississippi River WMO
- Mississippi WMO
- Ramsey/Washington/Metro WD
- 2018 Monitoring Locations
- 2019 Monitoring Locations
- Rain Gauge Locations

Outfalls

- 30" - 48"
- 50" - 72"
- > 72"

wsb

Saint Paul Sewers

CITYWIDE H&H MODELING MAP

TEDESCO STREET
2020 Project

GRIGGS/SCHEFFER
2020 Street Paving Project

Legend

- Detailed Model Done 2019
- Detailed Scale Model Done
- Mixed Scale Model Done
- Skeleton Scale Model Done

N
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DATA UPDATED 2/2020

Document Path: Z:\sewers\projects\City Stormwater Modeling Projects\Maps & Index\Citywide Modeling Map.mxd

Saint Paul Sewers

CITYWIDE P8 MODELING MAP

Legend

- 2019 P8 MODELS
- P8 Model Done

P8 MODELS DONE BY:

1. SYLVAN-ACKER POND:	TKDA
2. BARGE CHANNEL PONDS:	TKDA
3. FLANDRAU-HOYT;	BARR
4. FLANDRAU-CASE;	BARR
5. BIRMINGHAM-YORK:	BARR
6. HAZEL-NOKOMIS:	BARR
7. HAZEL-ROSS:	BARR
8. BIRMINGHAM-MINNEHAHA:	BARR
9. ETNA-THIRD:	BARR

DATE UPDATED 2/2020

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Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
	Bridal Veil Creek			
005	South of Buford	Bridal Veil	42"	
	Mississippi River			
010	Eustis	St. Anthony Park	tunnel	2467
020	Lotus	Miss. River Blvd.	tunnel	31
030	Marshall	Miss. River Blvd.	tunnel	121
040	West Kittsondale	West Kittsondale	tunnel	977
050	Otis	Miss. River Blvd.	tunnel	14
060	Portland Ave	Miss. River Blvd.	tunnel	508
070	Summit	Miss. River Blvd.	16" cast iron	30
080	Goodrich	Miss. River Blvd.	tunnel	456
090	Princeton	Miss. River Blvd.	tunnel	150
095	Berkeley	Miss. River Blvd.	24"	
100	Jefferson	Miss. River Blvd.	tunnel	139
110	Randolph	Miss. River Blvd.	tunnel	39
115	Hartford	Miss. River Blvd.	tunnel	580
120	Scheffer	Miss. River Blvd.	tunnel	8
130	Highland Parkway	Miss. River Blvd.	tunnel	165
135	Hidden Falls	Hidden Falls	48"	269
140	Sheridan	Davern	tunnel	145
145	West 7th	Davern	30"	30
150	Davern	Davern	tunnel	963
151	Watergate Marina	Crosby	21"	

Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
156	Elway	Crosby	60"	
158	Elway	Crosby	90"	820
160	Otto	E. Kittsondale	tunnel	177
170	Bay	E. Kittsondale	tunnel	1699
180	Sumac	West 7th	tunnel	8
190	Drake	West 7th	tunnel	158
195	Fountain Cave	West 7th	42"	39
200	Richmond	West 7th	20"	142
201	Richmond	West 7th	42"	
206	Western	West 7th	30"	98
210	Smith -1992	Good/West	tunnel	424
220	Sherman	Downtown	48"	41
230	Chestnut	Downtown	27"	82
240	Eagle	Downtown	3'x5' brick	77
~~250~~	~~Ontario~~ abandoned	~~Downtown~~	~~24"~~	
260	Market	Downtown	24"	
270	St. Peter	St. Anthony Hill	tunnel	2653
280	Cedar	Downtown	tunnel	
290	Minnesota	Downtown	tunnel	115
295	Robert	Downtown	tunnel	5
300	Jackson	Downtown	36"	27
310	Sibley	Downtown	48"	10
~~315~~	~~Wacouta~~	~~Downtown~~	~~12"~~	~~10~~

Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
320	Broadway	Downtown	7'x8' concrete	115
325	Troutbrook	Troutbrook	dual 10'	4025
330	Plum	Phalen Creek	tunnel	1406
340	Urban	Urban	48" brick	328
343	Warner and Childs	Pig's Eye	24"	
346	Warner and Childs	Pig's Eye	18"	
350	Beltline (RWMWD's)	Beltline	9'	3524
~~352~~	~~off Child's Road~~	~~Pig's Eye~~	~~12"~~	
~~354~~	~~off Child's Road~~	~~Pig's Eye~~	~~12"~~	
~~356~~	~~off Child's Road~~	~~Pig's Eye~~	~~12"~~	
360	Battle Creek	Pig's Eye	36"	
365	Wyoming	Riverview	30" culvert	8
380	Page and Barge Ch Rd	Riverview	42"	69
385	Robie and Witham	Riverview	54"	
390	Robie and Kansas	Riverview	42"	264
400	Airport	Riverview	12"	
405	Chester St	Riverview	tunnel	326
407	Eva St	Riverview	36"	
410	Custer St	Riverview	tunnel	188
420	Moses St	Riverview	5'6"	95
430	Belle	Riverview	2-36"x40"	37
440	Riverview	Riverview	2-77"x121"	801
460	Chippewa and Baker	Riverview	16"	71

Outfall Inventory

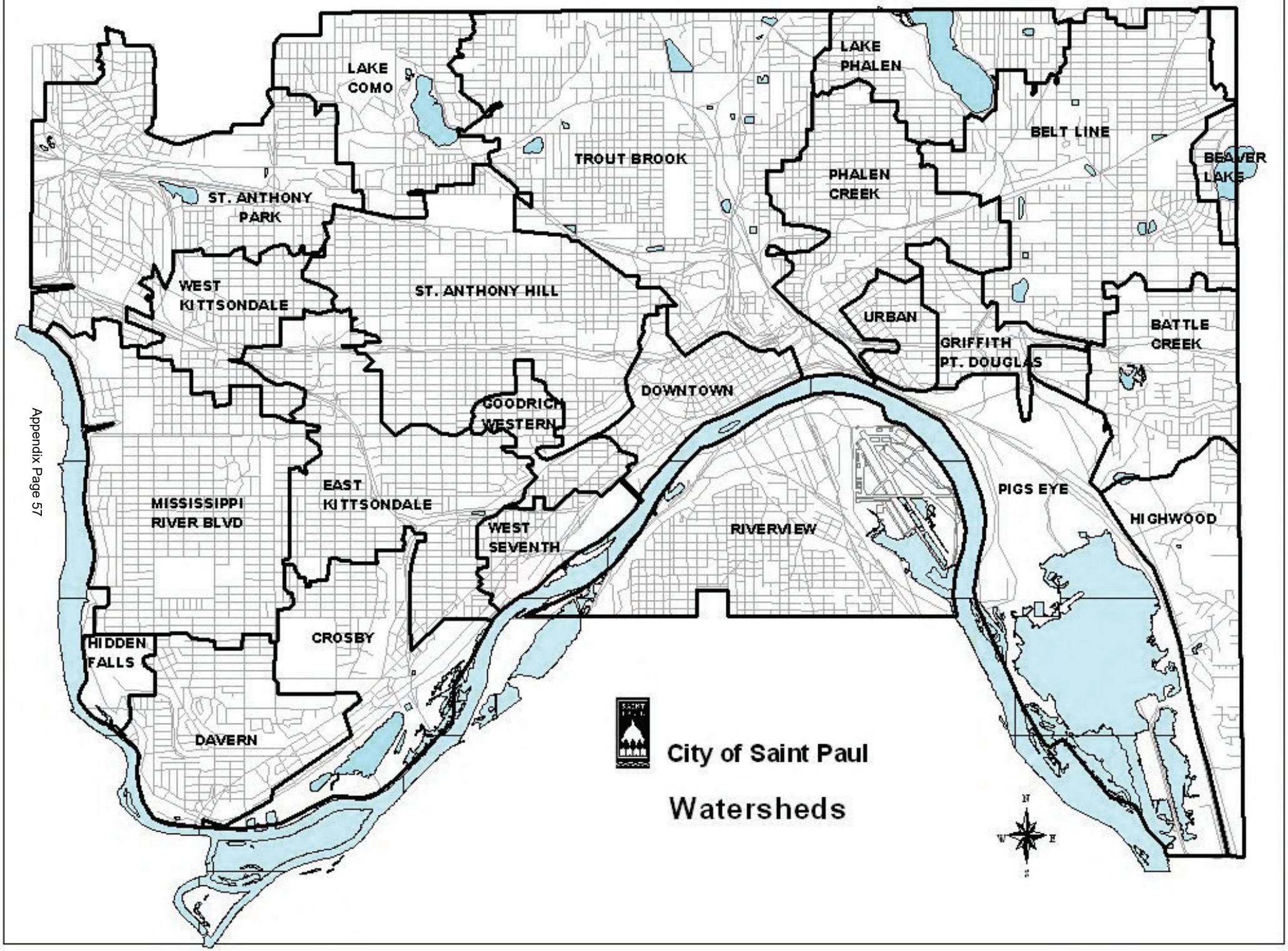
Outfall	Location	Watershed	Pipe Size	Acres
	Upper Lake			
152	Springfield	Crosby	15"	
	Crosby Lake			
153	Rankin	Crosby	27"	
154	Homer	Crosby	30"	
155	Leland	Crosby	30"	
	Fairview North Pond			
500	Tatum & Pierce Butler	St. Anthony Park	6'	
510	Pierce Butler & Aldine	St. Anthony Park	54"	
	Lake Como			
520	Arlington & Chelsea	Como	60"	310
530	Chatsworth North	Como	36"	201
540	Milton North	Como	36"	79
550	Parkview East	Como	18"	17
560	Ivy East	Como	18"	24
570	Wheelock Pkwy East	Como	24"	23
580	Rose East	Como	36"	30
590	Victoria South	Como	30"	49
600	Chatsworth South	Como	24"	75
610	Horton West	Como	15"	311
620	Park West	Como	36"	50

Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
	Loeb Lake			
630	Jessamine	Troutbrook	36"	
	Lake Phalen			
680	Arlington West	Phalen	72"	380
690	Blomquist South	Phalen	36"	71
700	Arlington East	Phalen	42"	209
710	between Hoyt & Neb.	Phalen	42"	69
720	Larpenteur East	Phalen	84"	17
	Beaver Lake			
726	Lacrosse	Beaver	15"	
728	Ames	Beaver	15"	
730	Rose North	Beaver	42"	67
740	McKnight North	Beaver	21"	22
	Suburban Pond			
---	Suburban & VanDyke (RWMWD's)	Battle Creek	102"	
750	Suburban & WB Ave	Battle Creek	27"	
760	Suburban & Hazel	Battle Creek	54"	
	Little Pig's Eye Lake			
770	near fish hatchery	Griffith/Pt. Douglas	72"	
	Pig's Eye Lake			
780	Burlington	Highwood	66"	
784	Winthrop @ Lower Afton	Highwood	30"	

Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
786	Morningside @ Lower Afton	Highwood	18"	
790	Springside Drive	Highwood	33"	
791	Highwood	Highwood	48"	
	Battle Creek			
~~800~~	~~N. Park Drive & Faye~~	~~Battle Creek~~	~~33"~~	
808	Sandralee	Battle Creek	24"	
810	Ruth	Battle Creek	42"&73-1/2" arch	
812	Warren	Battle Creek	18"	
814	Cutler	Battle Creek	24"	
816	Nelson	Battle Creek	24"	
818	Winthrop & Larry Ho	Battle Creek	30"	
820	Winthrop & N. Park Dr	Battle Creek	36"	
825	Michael N	Battle Creek	33"	
826	Michael S	Battle Creek	30"	
830	McKnight & N. Park Dr	Battle Creek	36"	
836	A Street	Battle Creek	18"	


LAKE COMO
LAKE PHALEN
TROUT BROOK
BELT LINE
BEAVER LAKE
PHALEN CREEK
ST. ANTHONY PARK
WEST KITTSONDALE
ST. ANTHONY HILL
URBAN
BATTLE CREEK
GRIFFITH
PT. DOUGLAS
DOWNTOWN
GOODRICH
WESTERN
EAST KITTSONDALE
MISSISSIPPI RIVER BLVD
WEST SEVENTH
RIVERVIEW
PIGS EYE
HIGHWOOD
HIDDEN FALLS
CROSBY
DAVERN
City of Saint Paul
Watersheds
N
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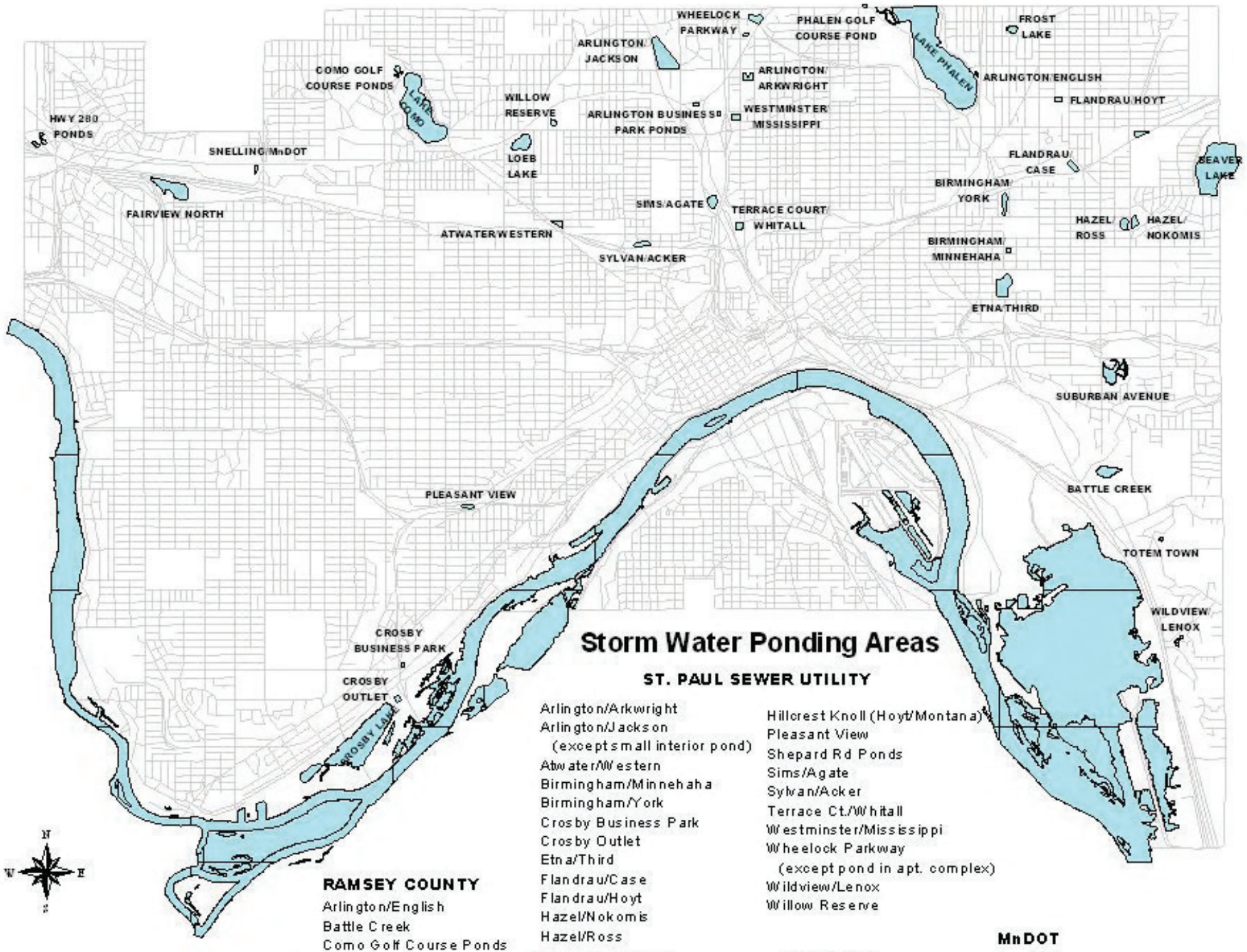
Watershed Inventory

Watershed	WS#	Area (acres)	Population (2000 Census)	Percent Impervious	Runoff Coefficient
Beaver Lake	1	278	2,070	31	0.33
Belt Line	2	2,882	30,994	56	0.55
Lake Phalen	3	995	7,626	41	0.42
Trout Brook	4	3,959	37,665	63	0.62
Lake Como	5	1,240	9,753	47	0.47
St. Anthony Park	6	2,467	13,140	70	0.68
Phalen Creek	7	1,406	18,418	64	0.62
St. Anthony Hill	8	2,542	36,410	66	0.64
Griffith/Pt. Douglas	9	458	5,264	63	0.61
W. Kittsondale	10	847	7,732	69	0.67
Urban	11	339	4,491	58	0.57
Battle Creek	12	1,089	8,201	54	0.54
Downtown	13	669	6,097	78	0.75
E. Kittsondale	14	1,870	18,353	64	0.62
Mississippi River Blvd.	15	2,373	27,251	59	0.58
Goodrich/Western	16	424	5,010	64	0.63
Pigs Eye	17	2,995	913	39	0.40
Riverview	18	2,658	14,860	58	0.57
Highwood	19	1,139	5,216	50	0.50
W. Seventh	20	450	2,543	61	0.60
Crosby	21	1,446	8,804	45	0.45
Davern	22	1,277	6,628	56	0.55
Hidden Falls	23	237	1,263	56	0.55
Total		34,040	278,706		



Storm Water Ponding Areas

ST. PAUL SEWER UTILITY

Arlington/Arkwright
Arlington/Jackson
(except small interior pond)
Atwater/Western
Birmingham/Minnehaha
Birmingham/York
Crosby Business Park
Crosby Outlet
Etna/Third
Flandrau/Case
Flandrau/Hoyt
Hazel/Nokomis
Hazel/Ross
Hillcrest Knoll (Hoyt/Montana)
Pleasant View
Shepard Rd Ponds
Sims/Agate
Sylvan/Acker
Terrace Ct./Whitall
Westminster/Mississippi
Wheelock Parkway
(except pond in apt. complex)
Wildview/Lenox
Willow Reserve

RAMSEY COUNTY

Arlington/English
Battle Creek
Como Golf Course Ponds
Surburban Avenue
Totem Town

ST. PAUL PARKS

Phalen Golf Course Pond

RAILROAD

Fairview/North

MnDOT

Hwy. 280
Snelling/MnDOT

City of Saint Paul

Storm Water Ponding Area Inventory

Ponding Area	Drainage Area (acres)	Population 2000 Census	Pond Area (acres)	Storage Capacity (Acre-feet
Arlington/Arkwright	302.3	4001	5	20.4
Arlington/Jackson	699.4	6562	14.5	75.6
Atwater/Western	127.3	1230	2.7	13.3
Birmingham/Minnehaha	41.0	457	0.9	2.5
Birmingham/York	146.5	2050	2.2	9.5
Crosby Business Park	39.6	198	1	5.52
Crosby Outlet	866.0	6295	5.5	40.6
Etna/Third	244.0	2457	4.7	25.1
Flandrau/Case	95.2	1331	0.7	3
Flandrau/Hoyt	479.5	4582	1.9	20.8
Hazel/Nokomis	73.0	511	2.3	6.3
Hazel/Ross	67.8	949	4	3.8
Pleasant View	164.5	2053	2.3	14.5
Sims/Agate	174.6	1357	5.3	12.8
Sylvan/Acker	376.9	3617	2.1	11.7
Terrace Ct./Whitall	4.7	28	0.5	0.5
Westminister/Mississippi	123.4	1912	2.2	10.1
Wheelock Parkway	19.0	265	1.3	1.7
Wildview/Lenox	19.3	111	0.73	2.2
Willow Reserve	372.1	3669	20.3	42.6
Total	4436.2	43633.6		

Drainage area only includes area in St. Paul.

Storage capacity is for a 100 year storm in acre-feet.

Storm Water Ponding Areas by Watershed Area

Beaver Lake	None
Belt Line	Birmingham/Minnehaha Birmingham/York Etna/Third Flandrau/Hoyt Flandrau/Case Hazel/Nokomis Hazel/Ross Hillcrest Knoll (Hoyt/Montana)
Lake Phalen	Arlington/English Phalen Golf Course Pond
Trout Brook	Arlington/Jackson Arlington/Arkwright Atwater/Western Sims/Agate Sylvan/Acker Terrace Ct./Whitall Westminster/Mississippi Wheelock Parkway Willow Reserve
Lake Como	Como Golf Course Ponds
St. Anthony Park	Fairvew/North Highway 280 Snelling/MnDOT
Phalen Creek	None
St. Anthony Hill	None
Griffith/ Pt. Douglas	None
W. Kittsondale	None
Urban	None
Battle Creek	Battle Creek Surburban Avenue
Downtown	None

E. Kittsondale	Pleasant View
Mississippi River Blvd.	None
Goodrich/ Western	None
Pigs Eye	None
Riverview	None
Highwood	Totem Town Wildview/Lenox
W. Seventh	None
Crosby	Crosby Business Park Crosby Outlet
Davern	None
Hidden Falls	None

List of Industrial Stormwater Permit Holders
Obtained from MPCA Industrial Stormwater Permit database on 9/11/2017

Permit site number shown on City Permit Location Maps	Address Number	Street Address	Facility Name	Does MPCA Consider Site No Exposure ?	Owner Name
MNRNE396P	1199	7th St E	Buzzard Lips Press	Yes	Buzzard Lips Press
MNR0534ZL	44	Acker St E	HAP Transportation	No	PET Enterprises
MNR0534NK	206	Airport Dr	Army Aviation Support - Holman Field	No	Met Council Environmental Services, Mn Dept Of Military Affairs
MNR053CBY	206	Airport Dr	Army Aviation Support - Holman Field	No	Met Council Environmental Services, Mn Dept Of Military Affairs
MNR053526	270	Airport Rd	St Paul Flight Center	No	St Paul Flight Center
MNR0534ZS	335	Alpha Ln	Horton Transportation Inc	No	Horton Transportation Inc.
MNR0538R7	335	Alpha Ln	Horton Transportation Inc	No	Horton Transportation Inc.
MNR0533Z2	106	Arlington Ave E	Action Auto Parts of St Paul Inc	No	Action Auto Parts
MNR053C35	106	Arlington Ave E	Action Auto Parts of St Paul Inc	No	Action Auto Parts
MNR05379G	240	Arlington Ave E	Addco Building	No	Actus Manufacturing Inc
MNR053B84	240	Arlington Ave E	Addco Building	No	Actus Manufacturing Inc
MNR053B2W	80	Arlington Ave East Ste A B	First Student Inc 20757	No	First Student, Inc.
MNRNE38FV	300	Atwater St	Northern Screw Machine Co Inc	Yes	Thomas Kieger
MNR05372L	432	Atwater St	Linders Specialty Co Inc	No	Dan and Vince Linders
MNR05393N	432	Atwater St	Linders Specialty Co Inc	No	Dan and Vince Linders
MNR053487	521	Barge Channel Rd	Great Western Recycling Industries Inc	No	Northern Metals LLC dba Northern Metal Recycling
MNR053BKF	521	Barge Channel Rd	Northern Metal Recycling - St Paul	No	Northern Metals LLC dba Northern Metal Recycling
MNR053534	565	Barge Channel Rd	Keith Krupenny & Son Disposal Service	No	Keith Krupenny & Sons
MNR053CB5	565	Barge Channel Rd	Keith Krupenny & Son Disposal Service	No	Keith Krupenny & Sons
MNR0533F8	607	Barge Channel Rd	J&J Recycling	No	J & J Recycling
MNR053CNV	607	Barge Channel Rd	J&J Recycling	No	J & J Recycling
MNR053429	701	Barge Channel Rd	Hawkins Terminal II - SW	No	Hawkins, Inc., Hawkins, Inc.
MNR053B8Z	701	Barge Channel Rd	Hawkins Terminal II - SW	No	Hawkins, Inc., Hawkins, Inc.
MNR0534J4	751	Barge Channel Rd	Alter River Terminal	No	Saint Paul Port Authority
MNR053BSY	780	Barge Channel Rd	Gerdau - St Paul Metallics Raw Materials	No	Gerdau - Metallics Raw Materials
MNR053B2J	795	Barge Channel Rd	St Paul Alter River Terminal	No	Alter Trucking and Terminal Corporation
MNR05343M	801	Barge Channel Rd	Alter Metal Recycling - St Paul	No	Alter Trading Corp
MNR053B32	801	Barge Channel Rd	Alter Trading Corp	No	Alter Metal Recycling
MNR0534Z2	644	Bayfield St	St. Paul Downtown Airport	No	Metropolitan Airports Commission
MNR053B4B	644	Bayfield St	Metropolitan Airport Commission	No	Metropolitian Airports Commission
MNR053473	690	Bayfield St	3M - St Paul - Holman Field	No	3M Company
MNR0539WR	690	Bayfield St	3M - St Paul - Holman Field	No	3M Company
MNRNE399W	1966	Benson Ave	Amidon Graphics	Yes	Amidon Graphics
MNR053C79	500	Block Of Eaton St	Eaton Maintenance Facility	No	Union Pacific Railroad
MNRNE38JG	1520	Buerkle Rd	Loftech Prototype Mfg LLC	Yes	Daniel Feser
MNRNE39WL	1927	Case Ave E	3M Saint Paul Distribution Center	Yes	Ras Properties LLC
MNR0535G5	261	Chester St	ISD 625 Transportation Garage	No	Fedex
MNR0534NC	936	Childs Rd	Cemstone Products - Childs Rd	No	Cemstone Products Company
MNR053486	1031	Childs Rd	Great Western Dock & Terminal	No	Northern Metals LLC dba Northern Metal Recycling

List of Industrial Stormwater Permit Holders
Obtained from MPCA Industrial Stormwater Permit database on 9/11/2017

Permit site number shown on City Permit Location Maps	Address Number	Street Address	Facility Name	Does MPCA Consider Site No Exposure ?	Owner Name
MNR053BKC	1031	Childs Rd	Northern Metal Recycling - Dock	No	Northern Metals LLC dba Northern Metal Recycling
MNR053426	1125	Childs Rd	Hawkins Inc - Terminal I	No	Hawkins Inc
MNR053B94	1125	Childs Rd	Hawkins - Terminal 1	No	Hawkins Inc
MNR0534C3	2209	Childs Rd	Flint Hills Resources Pine Bend LLC - St Paul	No	Flint Hills Resources Pine Bend LLC
MNR053CJ3	2209	Childs Rd	Flint Hills Resources Pine Bend LLC - St Paul	No	Flint Hills Resources Pine Bend LLC
MNR0535RN	2400	Childs Rd	Met Council Metropolitan WWTP	No	Metropolitan Council Env Services
MNR053CNY	515	Cleveland Ave	Overhaul Base	No	Metro Transit
MNR05346G	508	Cleveland Ave N	Minnesota Commercial Railway Co	No	Minnesota Commercial Railway Co
MNR053C5X	508	Cleveland Ave N	Minnesota Commercial Railway Co	No	Minnesota Commercial Railway Co
MNR05353R	515	Cleveland Ave N	Metro Transit Overhaul Base - SW	No	Metropolitan Council
MNR0534MS	309	Como Ave	Advanced Disposal Services	No	Advanced Disposal Services Vasko Solid Waste Inc
MNR053B96	309	Como Ave	Advanced Disposal Services Vasko Solid Waste Inc	No	Advanced Disposal Services Vasko Solid Waste Inc
MNRNE38FS	1608	Como Ave Ste B1	Engraphics Inc	Yes	Engraphics Inc
MNR05349X	2576	Doswell Ave	Metro Metals Corp	No	Metro Metals Corp
MNR053CQY	2576	Doswell Ave	Metro Metals Corp	No	Metro Metals Corp
MNR053DGV	930	Duluth St	Ray Anderson & Sons	No	Ray Anderson & Sons Co Inc, Ray Anderson & Sons Co Inc
MNRNE3BLZ	355	E 8th St	Meritex - St. Paul	Yes	Meritex
MNR05374S	51	E Maryland Ave	Splash Products Inc	No	Elliott Auto Supply Co Inc dba Splash Products
MNR05384T	51	E Maryland Ave E	Splash Products	No	Elliott Auto Supply Co Inc dba Splash Products
MNRNE37ZP	223	E Plato Blvd	Tursso Companies Inc	Yes	Tursso Companies, Inc
MNR0537Y3	345	E Plato Blvd	528 Partnership LLP Brown & Bigelow Bldg	No	528 Limited Partnership
MNR0534ZY	515	Eaton St	Signature Flight Support STP	No	Signature Flight Support
MNR0538P4	515	Eaton St	Signature Flight Support STP	No	Signature Flight Support
MNR0535N5	701	Eaton St	Hubbard Broadcasting Hanger	No	Hubbard Broadcasting Inc, St Croix Partners LLC
MNR0537VP	701	Eaton St	Hubbard Hanger	No	Rodney Burwell, TriFly LLC
MNR0538PH	701	Eaton St	Hubbard Broadcasting Hanger	No	Hubbard Broadcasting Inc, St Croix Partners LLC
MNR053939	701	Eaton St	Hubbard Hanger	No	Rodney Burwell, TriFly LLC
MNR0535N2	719	Eaton St	Minnesota Jet Inc	No	Northern States Power a MN Corp dba Xcel
MNR0538VB	719	Eaton St	Minnesota Jet Inc	No	Northern States Power a MN Corp dba Xcel
MNR053772	22	Empire Dr	Molex Inc - Copper Flex Products	No	Molex Copper Flex Products Inc
MNRNE39DG	87	Empire Dr	Saint Paul Stamp Works	Yes	Saint Paul Stamp Works
MNRNE3BLL	1220	Energy Park Dr	Quality Tool	Yes	Lakewood Land LLC
MNRNE38Q5	1835	Energy Park Dr	Minnesota Wire & Cable	Yes	Minnesota Wire
MNRNE385Q	2020	Energy Park Dr	Larkin Industries Inc	Yes	Michael S. and Lynnette Larkin
MNR0534MX	2058	Energy Park Dr	Cemstone Products - Midway	No	Cemstone Products Co.
MNRNE3CT7	1280	Energy Pk Dr	GLS Co	Yes	GLS Co
MNRNE3CHV	139	Eva St	Rexam Beverage Can Co - St Paul	Yes	Rexam BCNA Corp
MNRNE38HM	314	Eva St	US Postal Service - St Paul Vehicle Main	Yes	Us Postal Service/Fac Svc Office
MNRNE3CLC	274	Fillmore Ave E	Vomela Specialty Co	Yes	Vomela Specialty Co
MNR053C3X	403	Fillmore Ave E	Americraft Carton Inc	No	Americraft Carton, Inc

List of Industrial Stormwater Permit Holders
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MNRNE3845	410	Fillmore Ave E	3M - Bldg 76	Yes	3M Company
MNR053D66	90	Fish Hatchery Rd	Dayton's Bluff Yard	No	BNSF Railway Co
MNRNE3CYW	181	Florida St	Aero Systems Engineering, Inc.-Florida Street Oper	Yes	Aero Systems Engineering, Inc.-Florida Street Oper
MNR0539Q8	867	Forest St	Northern Iron of St Paul LLC	No	Northern Iron Corp
MNRNE3CWV	432	Front Ave	AAA Metal Finishing Inc.	Yes	Raul F. Rivas
MNRNE3BJ9	2124	Gilbert Ave	J&D Custom Plating Inc	Yes	J & D Plating
MNRNE3CLJ	1265	Grey Fox Rd	Smiths Medical ASD Inc - St Paul	Yes	Smiths Medical ASD
MNRNE39Y8	431	Griggs St N	Rayven Inc	Yes	Ingalls Family Partnership
MNR0533X5	781	Hubbard Ave	Marshall Concrete Products Inc	No	Flittie Ready Mix Inc
MNRNE39HN	1457	Iglehart Ave	Loes Enterprises Inc	Yes	Loes Enterprises Inc
MNRNE3BHP	1605	Iglehart Ave	Co-Operative Plating Co	Yes	Co-operative Plating Co
MNRNE3D5L	2565	Kasota Ave	A-1 Recycling Inc	Yes	A-1 Recycling Inc
MNR053C7S	76	Kellogg Blvd W	District Energy St Paul Inc-Hans O Nyman	No	District Energy St Paul Inc
MNR0533YF	465	Kenny Rd	Metro Manufacturing Inc	No	JAMES FOX
MNR0539H9	465	Kenny Rd	Metro Manufacturing Inc	No	JAMES FOX
MNRNE399H	1457	Marshall Ave	Northwest Casting Inc	Yes	Mark Brudzinski and Chris Brudzinski
MNR053442	195	Minnehaha Ave E	St. Paul Transfer	No	Waste Management
MNR0537DN	195	Minnehaha Ave E	Strategic Materials Inc - Saint Paul Plant	No	Eric Fortin
MNR0534BX	198	Minnehaha Ave E	Apex Auto Parts & Radiators	No	Vince Reiter
MNR053B97	198	Minnehaha Ave E	Apex Auto Parts & Radiators	No	Vince Reiter
MNRNE39RP	888	Minnehaha Ave E	3M - Industrial Materials	Yes	3M Company
MNR0534MY	1520	Minnehaha Ave E	Cemstone Products - Minnehaha	No	Cemstone Products Co
MNR053B8H	195	Minnehaha Ave E Ste A	RRT LLC St Paul Transfer Suite A	No	Nicholas
MNR05353N	800	Mississippi St	East Metro Transit Facility - SW	No	Metro Transit
MNR053CP7	800	Mississippi St	East Metro Transit Facility	No	Metro Transit
MNR053CTB	218	N Pascal St	CROSSTOWN AUTO, INC	No	CLYDE PAYNE
MNR05355L	1102	N Snelling Ave	Student Transportation of America	No	First Student Inc
MNR0534CK	218	Pascal St N	Crosstown Auto Inc	No	Crosstown Auto Inc
MNRNE3BT2	650	Pelham Blvd Ste 100	NOVUS Inc	Yes	NOVUS Inc
MNR0534HV	945	Pierce Butler Rte	Lawrence Signs Inc	No	Walker Sign Holdings Inc
MNR053C4Q	945	Pierce Butler Rte	Walker Sign Holdings Inc	No	Walker Sign Holdings Inc
MNR0533XH	1305	Pierce Butler Rte	Pierce Recycling and Transfer Facility	No	Veit Companies Inc
MNR053C2X	1305	Pierce Butler Rte	Pierce Recycling and Transfer Facility	No	Veit Companies Inc
MNRNE37ZB	1319	Pierce Butler Rte	Twin City Metal Fab Inc	Yes	Jim Klibane
MNR05352N	1701	Pierce Butler Rte	BNSF Midway Hub Center	No	BNSF Railway Company
MNR053BF3	1701	Pierce Butler Rte	BNSF Midway Hub Center	No	BNSF Railway Company
MNR053C77	2160	Pigs Eye Lake Rd	Hoffman Pigs Eye Maintenance Facility	No	Union Pacific Railroad
MNR0534FC	2165	Pigs Eye Lake Rd	Environmental Wood Supply LLC	No	Environmental Wood Supply LLC
MNR053C7Q	2165	Pigs Eye Lake Rd	Environmental Wood Supply LLC	No	Environmental Wood Supply LLC
MNR0537Y2	345	Plato Blvd E	529 Limited Partnership LLP Bldg	No	528 Limited Partnership

List of Industrial Stormwater Permit Holders
Obtained from MPCA Industrial Stormwater Permit database on 9/11/2017

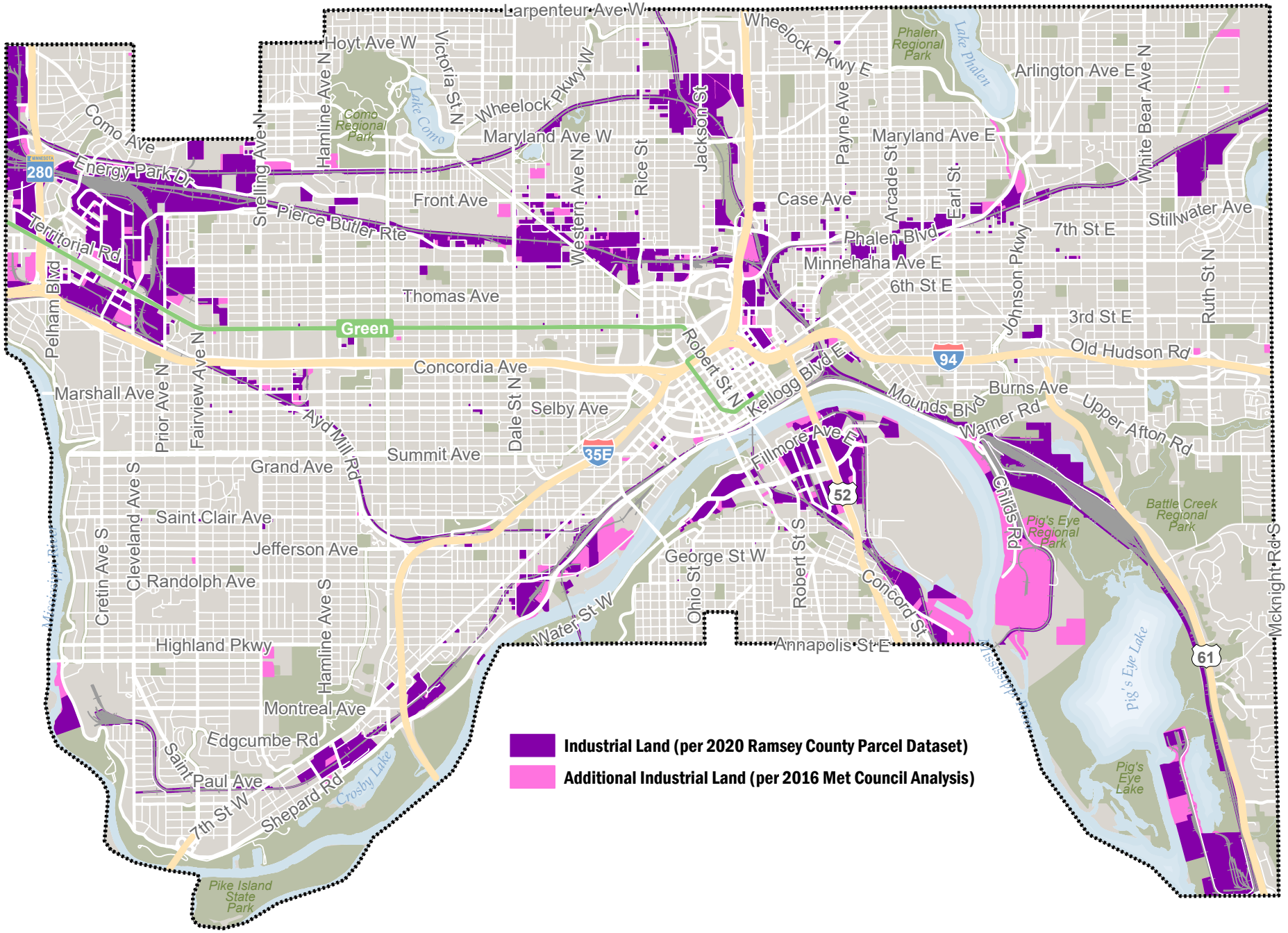
Permit site number shown on City Permit Location Maps	Address Number	Street Address	Facility Name	Does MPCA Consider Site No Exposure ?	Owner Name
MNR053BCV	345	Plato Blvd E	528 Limited Partnership LLP Brown & Bigelow B1	No	528 Limited Partnership
MNR0537V4	875	Prior Ave	E-Z Recycling	No	Chris Reinhardt
MNR053BJL	875	Prior Ave	E-Z Recycling	No	Chris Reinhardt
MNRNE3CQ3	698	Prior Ave N	Graphic Finishers of America	Yes	Tom McCullough
MNRNE39LD	155	Randolph Ave	Former High Bridge Coal Generating Facility	Yes	Northern States Power Compant d/b/a Xcel Energy
MNR0534FN	1061	Red Rock Rd	Gavilon Grain LLC dba Peavey Co Red Rock	No	Gavilon Grain, LLC
MNR0538JV	1061	Red Rock Rd	Gavilon Grain LLC dba Peavey Co Red Rock	No	Gavilon Grain, LLC
MNR0534L9	1303	Red Rock Rd	AMG - Alliance LLC	No	AMG Alliance LLC
MNR0536K3	1303	Red Rock Rd	AMG Resources	No	AMG Resources Corp
MNR0537DC	1303	Red Rock Rd	Upper River Services- Pigs Eye	No	Upper River Services, LLC
MNR0538TV	1303	Red Rock Rd	Upper River Services- Pigs Eye	No	Upper River Services, LLC
MNR053CSG	1303	Red Rock Rd	AMG Resources	No	AMG Resources
MNR05352V	1359	Red Rock Rd	Barton Enterprises Inc	No	Commercial Asphalt Co
MNR053BWL	1359	Red Rock Rd	Barton Enterprises Inc	No	Commercial Asphalt Co
MNR053425	1425	Red Rock Rd	Hawkins Water Treatment Group - Red Rock	No	Hawkins, Inc.
MNR053BDW	1425	Red Rock Rd	Hawkins Water Treatment Group - Red Rock	No	Hawkins, Inc.
MNR0534WY	1678	Red Rock Rd	Gerdau Ameristeel US Inc - Saint Paul Mill	No	Gerdau Ameristeel US Inc.
MNR0539XY	1678	Red Rock Rd	Gerdau Ameristeel US Inc - Saint Paul Mill	No	Gerdau Ameristeel US Inc.
MNR0533SN	754	Rice St	Ace Auto Parts & Salvage Co Inc	No	Barb Weyandt
MNR0539QD	754	Rice St	Ace Auto Parts & Salvage Co Inc	No	Barb Weyandt
MNRNE39DF	1101	Rice St	Racy Printing	Yes	Racy Printing Inc
MNR053B2L	91	Ridder Cir	Semple Recycling & Crushing LLC	No	Doboszenski and Son Inc
MNRNE3CYJ	1742	Selby Ave	Atma-Sphere	Yes	Atma-Sphere
MNR0535GG	1999	Shepard Rd Ste A	Johnson Brothers Liquor Co	No	Johnson Brothers Liquor Co
MNR053BK9	1999	Shepard Rd Ste A	Johnson Brothers Liquor Co	No	Johnson Brothers Liquor Co
MNR05352D	1000	Shop Rd	Canadian Pacific Railway - St Paul Yard	No	Canadian Pacific Railway
MNR053C2P	1000	Shop Rd	Canadian Pacific Railway - St Paul Yard	No	Canadian Pacific Railway
MNR0537DD	40	State St	Upper River Services LLC	No	Upper River Services, Upper River Services, LLC
MNR0538TX	40	State St	Upper River Services LLC	No	Upper River Services, Upper River Services, LLC
MNR0537JK	51	State St	Pier Foundry & Pattern Shop	No	Matt Grilz
MNR0538N3	51	State St	Pier Foundry & Pattern Shop	No	Matt Grilz
MNRNE3929	355	State St	Viking Drill & Tool Inc	Yes	Viking Drill & Tool, Inc
MNRNE38YF	878	Stryker Ave	Palindrome dba Nomadic Press	Yes	Palindrome dba Nomadic Press
MNR0537JB	228	Sycamore St W	Atlas U-Pull LLC	No	79th Street Center Partnership LLP
MNR053CSY	228	Sycamore St W	Atlas U Pull	No	Atlas U Pull
MNR05352J	845	Terrace Ct	Univar USA Inc - Saint Paul Facility	No	Univar Usa Inc. - St. Paul
MNRNE396Q	2299	Territorial Rd	Arrow	Yes	Arrow
MNRNE38GQ	1332	Thomas Ave	Peak Printing	Yes	Norman Greg Inc
MNR053CYP	391	Topping St	Otto Packaging Midwest LLC	No	Otto Packaging Midwest LLC
MNRNE37SH	5000	Township Pkwy Ste A	Med-Tech Center	Yes	The Spearman Group LLC

List of Industrial Stormwater Permit Holders
Obtained from MPCA Industrial Stormwater Permit database on 9/11/2017

Permit site number shown on City Permit Location Maps	Address Number	Street Address	Facility Name	Does MPCA Consider Site No Exposure ?	Owner Name
MNR053C8P	858	Transfer Rd	Lubrication Technologies & Partners LLC	No	Lube-Tech & Partners LLC
MNR053CZP	1351	Trout Brook Cicrle	TCC Materials St Paul	No	TCC Materials
MNR0534JH	1351	Troutbrook Cir	Twin City Concrete Products Co - Saint Paul	No	TCC Materials
MNR053485	355	University Ave E	Metals Reduction Co	No	Regions Hospital
MNRNE3BMR	2447	University Ave W	Design Press	Yes	Terry Fleischhacker
MNRNE3D2B	2575	University Ave W Ste 180	Synovis Life Technologies Inc - Sub of Baxter Intl	Yes	Synovis LIfe Technologies, Synovis Life Technologies
MNRNE38PD	708	Vandalia St	E & L Bindery	Yes	Jeffrey Dahlin
MNRNE38TH	1396	W 7th St	Insty Prints	Yes	Bastian/Elm
MNR05349J	2020	W 7th St	Custom Rock	No	John Fallenstein
MNR053CH9	2020	W 7th St	Custom Rock	No	John Fallenstein
MNR053BMF	2140	W 7th St	Pearson's Candy Company	No	Pearson's Candy Holdings LLC
MNR0534F8	954	W Minnehaha Ave	St Paul Brass & Aluminum Foundry	No	St Paul Brass & Aluminum Foundry
MNR05396V	954	W Minnehaha Ave	St Paul Brass & Aluminum Foundry	No	St Paul Brass & Aluminum Foundry
MNRNE39YL	2635	W University Ave	Protatek International Inc	Yes	CSM
MNRNE3BMT	2635	W University Ave	Protatek International Inc	Yes	CSM
MNR0536KB	318	W Water St	Twin City Refuse Recycling & Transfer	No	Twin City Refuse & Recycling Inc
MNR053BRV	318	W Water St	Twin City Refuse Recycling & Transfer	No	Twin City Refuse & Recycling Inc
MNRNE39RR	42	Water St W	3M Company Building 75	Yes	3M Co
MNR0534KQ	268	Water St W	J&L Wire Cloth Co Inc	No	J & L Wire Cloth Co Inc
MNR053BSQ	268	Water St W	J&L Wire Cloth Co Inc	No	J & L Wire Cloth Co Inc
MNRNE3CDW	1050	Westgate Dr	Impressions Inc - St Paul	Yes	Impressions Inc
MNRNE39LQ	530	Wheeler St N	Western Graphics	Yes	Western Graphics
MNR05377R	550	Wheeler St N	Huot Manufacturing Co	No	Huot Manufacturing Co
MNR0538H2	550	Wheeler St N	Huot Manufacturing Co	No	Huot Manufacturing Co
MNRNE38YP	4835	White Bear Pkwy	Trane St. Paul	Yes	Trane US Inc.
MNRNE39C9	1125	Willow Lake Blvd	Dynamic Air	Yes	Dynamic Air Inc.
MNRNE394C	1200	Willow Lake Blvd	HB Fuller Co - Willow Lake	Yes	H.B. Fuller Co.
MNR053DJC	2313	Wycliff St	Precision Coatings Inc	No	Precision Coating Inc

Industrial Land Use in Saint Paul

February 24th, 2020



Date: 2/24/2020 9:24 AM Document Path: K:\GIS\Data and Research Requests\2020\2020-02-24 Industrial Land Use for Patrick Murphy\4 - GIS\2020-02-24 Industrial Land Use.aprx

This document was prepared by the Saint Paul Planning and Economic Development Department and is intended to be used for reference and illustrative purposes only. This drawing is not a legally recorded plan, survey, official tax map or engineering schematic and is not intended to be used as such. Data sources: Ramsey County Parcey Polygon GIS Dataset, 2020, with query: UseType1 IN ('T E Misc Co D 4', 'Industrial') Or UseType2 IN ('Industrial') Or ExemptUse1 IN ('T E Misc Co D 4') Or LandUseCodeDescription IN ('FLEX INDUSTRIAL CENTER', 'FOOD&DRINK PROCESS PLANT & STGE', 'FOUNDERY & HEAVY MFG PLANT', 'IND WAREHOUSE', 'INDUSTRIAL', 'INDUSTRIAL', 'VACANT LAND', 'MINI STORAGE/ WAREHOUSE', 'MANUFACTURING & ASSEMBLY LIGHT', 'OTHER INDUSTRIAL STRUCTURE', 'PUB UTIL PER PROP OTHER THAN RR', 'RAILROAD REAL PROP NOT USED OPERATIONS', 'RESEARCH AND DEVELOPMENT FACILITY', 'UTILITY PROP. VACANT LAND', 'RAILROAD REAL PROP USED IN OPERATION', 'TRUCK TERMINAL') and Met Council Land Use GIS data via MN Geospatial Commons, Dscrpt2016 = '%Industrial and Utility%', and St. Paul Enterprise GIS Base Layer Data, 2020.

0 0.5 1 2 Miles

Memorandum

To: Pat Murphy, City of St. Paul

From: Dan O'Neill, WSB

Date: January 24th, 2020

Re: Estimates of 2019 Annual and Season Stormwater Pollutant Loads
WSB Project No. R-01610-100

The City of St. Paul (City) is a Phase I MS4 permittee and is required to evaluate their annual and seasonal pollutant loads. This memorandum summarizes the loading assessment completed for the City for 2019.

2019 Pollutant Loading Calculations
Monitoring of major outfalls within the City of Saint Paul was completed by Capitol Region Watershed District (CRWD) in 2019. The City of Saint Paul's Stormwater Monitoring Program was focused on BMP performance monitoring, and that data is summarized under a separate report. Annual and seasonal pollutant loads were estimated for each subwatershed within the City for the loading parameters identified in the City's MS4 permit which include: chloride (Cl), total kjeldahl nitrogen (TKN), total phosphorus (TP), nitrate plus nitrite (NO_3 +NO_2), total suspended solids (TSS), and volatile suspended solids (VSS). The subwatersheds within the City are included in **Table 1** below and on **Figure 1** (attached).

Monitoring data collected by CRWD from the following subwatersheds was utilized for this assessment: East Kittsondale, St. Anthony Park, Trout Brook, and Hidden Falls. Monitoring of the Phalen Creek subwatershed was done only in the Fall in 2019 due to a tunnel replacement at that location. Monitoring of each subwatershed was completed at or near the outfall. The stations were configured to collect continuous flow measurements, and water quality, in accordance with the City's MS4 Permit.

701 XENIA AVENUE S | SUITE 300 | MINNEAPOLIS, MN | 55416 | 763.541.4800 | WSBENG.COM

Table 1. Watershed Inventory

Watershed	Area [acre]	Runoff Coefficient [.]	Rainfall Station
Battle Creek	1106	0.54	Wilder
Beaver Lake	192	0.33	Wilder
Belt Line	3014	0.55	Wilder
Crosby	1679	0.45	Hampden Park Co-op
Davern	1302	0.55	Hampden Park Co-op
Downtown	550	0.75	Engine House 18
East Kittsondale	1872	0.62	Engine House 18
Fish Creek	46	0.52	Wilder
Goodrich/Western	424	0.63	Engine House 18
Griffith/Pt. Douglas	460	0.61	Wilder
Hidden Falls	313	0.55	Hampden Park Co-op
Highwood	1123	0.50	Wilder
Lake Como	1294	0.47	Hampden Park Co-op
Lake Phalen	1013	0.42	Wilder
Mississippi River Blvd.	2391	0.58	Hampden Park Co-op
MRWMO	135	0.70	Hampden Park Co-op
Phalen Creek	1405	0.62	Wilder
Pigs Eye	3001	0.40	Wilder
Riverview	1017	0.57	Wilder
St. Anthony Hill	2651	0.64	Engine House 18
St. Anthony Park	2481	0.68	Hampden Park Co-op
Trout Brook	3963	0.62	Wilder
Urban	327	0.57	Wilder
West Kittsondale	1042	0.67	Hampden Park Co-op
West Seventh	451	0.60	Fire House 18

Monitored Subwatershed

Annual and seasonal city-wide flow-weighted averages were calculated for each of the loading pollutants from the monitored outfall data. TKN, TP, TSS and VSS loads were generated by CRWD in the WISKI data management program. This allowed for the extraction of baseflow and the associated load from the event load for those parameters. Cl and NO_2+NO_3 loads were calculated for the event-based volume (baseflow volume extracted), although the base flow loading for those parameters was not extracted. The following formula was used to calculate the annual/seasonal flow weighted mean concentrations (**Table 2**):

$$C = \frac{\sum(F_i \times C_i)}{\sum(F_i)}$$

C = annual/seasonal flow weighted mean concentration [mg/L]*

F_i = the event based flow for an individual event [cf]

C_i = the pollutant concentration for an individual event [mg/L]

*As described above, the flow-weighted mean concentration for TKN, TP, TSS, and VSS, was calculated from loads generated in the WISKI program, which extracted baseflow loading (not reflected in the formula above)

Table 2: City-wide Annual and Seasonal Flow-weighted Mean Concentrations

Parameter	Cl	TKN	TP	NO_2+NO_3	TSS	VSS
Units	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
Annual	102.8	1.9	0.4	0.4	132.9	46.7
Q1 (Jan-Mar)	417.9	4.0	0.5	0.7	103.8	34.0
Q2 (Apr-Jun)	47.3	2.0	0.4	0.4	180.2	72.5
Q3 (Jul-Sep)	20.5	1.5	0.3	0.4	152.9	49.2
Q4 (Oct-Dec)	41.2	0.8	0.3	0.3	69.3	25.3

Based on these calculated flow-weighted mean concentrations, the Simple Method was used to calculate each subwatershed's pollutant loading. Loads for the four monitored subwatersheds were generated using actual monitored loads. The Simple Method is show below:

$$L = 2.72\left(\frac{PP_jR_v}{12}\right)(CA)$$

L = pollutant loading for the year/season [lb]
P = rainfall depth for the year/season [in]
P_j = correction factor for storms that produce no runoff [.]
R_v = runoff coefficient [.]
C = flow-weighted mean concentration [mg/L]
A = area of the watershed [acre]

Values used in loading calculations:
R_v and A = Table 1
C = Table 2
P = Table 3
P_j = 0.85

The annual/seasonal precipitation totals for three different rainfall monitoring locations in St. Paul are provided in the **Table 3**. Each subwatershed was assigned precipitation data from the nearest precipitation monitoring site (see **Table 1** for assignments). The rainfall data was used as an input to the Simple Method for load calculations, as described above.

Table 3: Precipitation Data

Season[1]	Engine House 18	Hampden Park Co-op	Frost Elem.	Wilder Rec. Center
Annual	38.26	38.19	39.01	37.40
Q1 (Jan-Mar)	4.76	4.76	4.76	4.76
Q2 (Apr-Jun)	12.14	11.97	13.32	12.79
Q3 (Jul-Sep)	15.33	15.43	14.47	14.56
Q4 (Oct-Dec)	8.45	8.45	8.88	7.71

1 – The monitored rainfall data was supplemented with data collected from the University of Minnesota – St. Paul.

The annual and seasonal pollutant loads for each of the City's subwatersheds are presented in **Tables 4-8**. Loads for the four monitored sites are actual totals calculated for each station. Those sites are highlighted blue.

Table 4. Annual Pollutant Loadings (lbs)

Subwatershed	Cl	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	442193	8240	1635	1799	571865	200970
Beaver Lake	48931	912	181	199	63280	22238
Belt Line	1280187	23855	4734	5209	1655598	581825
Crosby	571221	10644	2112	2324	738730	259611
Davern	541396	10088	2002	2203	700159	246056
Downtown	312436	5822	1155	1271	404056	141997
East Kittsondale	407848	8586	1374	1505	444016	173126
Fish Creek	17710	330	65	72	22904	8049
Goodrich/Western	202322	3770	748	823	261652	91952
Griffith/Pt. Douglas	207755	3871	768	845	268678	94421
Hidden Falls	130151	2425	481	530	168318	59152
Highwood	415731	7747	1537	1692	537644	188944
Lake Como	459805	8568	1700	1871	594641	208974
Lake Phalen	328569	6123	1215	1337	424921	149329
Mississippi River Blvd.	1048452	19537	3877	4266	1355908	476506
MRWMO	71445	1331	264	291	92396	32471
Phalen Creek	644958	12018	2385	2624	834090	293123
Pigs Eye	888769	16561	3287	3617	1149399	403932
Riverview	429199	7998	1587	1747	555061	195064
St. Anthony Hill	1285068	23946	4752	5229	1661911	584044
St. Anthony Park	619683	8495	1559	2354	590036	210466
Trout Brook	355203	7813	1993	1540	675781	219525
Urban	138002	2572	510	562	178471	62720
West Kittsondale	527817	9835	1952	2148	682598	239885
West Seventh	204958	3819	758	834	265061	93150

Monitored Locations

Table 5: Q1 (Jan-Mar) Pollutant Loading (lbs)

Subwatershed	Cl	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	228885	2194	282	359	56865	18625
Beaver Lake	24282	233	30	38	6033	1976
Belt Line	635293	6089	782	997	157835	51695
Crosby	289555	2775	356	454	71938	23562
Davern	274436	2630	338	431	68182	22331
Downtown	158085	1515	195	248	39275	12864
East Kittsondale	361825	3427	431	436	72035	32670
Fish Creek	9167	88	11	14	2277	746
Goodrich/Western	102370	981	126	161	25433	8330
Griffith/Pt. Douglas	107536	1031	132	169	26717	8750
Hidden Falls	65974	632	81	103	16391	5368
Highwood	215188	2062	265	338	53462	17510
Lake Como	233077	2234	287	366	57907	18966
Lake Phalen	163052	1563	201	256	40509	13268
Mississippi River Blvd.	531466	5094	654	834	132040	43247
MRWMO	36216	347	45	57	8998	2947
Phalen Creek	333838	3200	411	524	82940	27165
Pigs Eye	460038	4409	566	722	114294	37434
Riverview	222159	2129	273	349	55194	18078
St. Anthony Hill	650216	6232	800	1020	161542	52909
St. Anthony Park	508001	3947	555	959	148243	40555
Trout Brook	159507	2492	280	220	35454	10534
Urban	71432	685	88	112	17747	5813
West Kittsondale	267553	2564	329	420	66472	21771
West Seventh	103704	994	128	163	25765	8439
Monitored Locations						

Table 6: Q2 (Apr-Jun) Pollutant Loading (lbs)

Subwatershed	Cl	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	69613	2921	603	594	265250	106644
Beaver Lake	7691	323	67	66	29306	11782
Belt Line	201224	8444	1744	1718	766735	308266
Crosby	82419	3459	714	704	314046	126262
Davern	78116	3278	677	667	297648	119669
Downtown	45636	1915	395	390	173891	69913
East Kittsondale	20551	2336	384	425	149261	63163
Fish Creek	2788	117	24	24	10623	4271
Goodrich/Western	29553	1240	256	252	112606	45273
Griffith/Pt. Douglas	32706	1372	283	279	124622	50104
Hidden Falls	1276	83	17	14	11351	2033
Highwood	65447	2746	567	559	249376	100262
Lake Como	66343	2784	575	567	252791	101635
Lake Phalen	51646	2167	447	441	196788	79119
Mississippi River Blvd.	151276	6348	1311	1292	576417	231749
MRWMO	10309	433	89	88	39279	15792
Phalen Creek	101533	4261	880	867	386878	155544
Pigs Eye	139916	5871	1212	1195	533128	214344
Riverview	67567	2835	585	577	257455	103510
St. Anthony Hill	187706	7877	1626	1603	715227	287557
St. Anthony Park	22647	1309	228	290	130690	58129
Trout Brook	98678	2279	611	494	254158	95978
Urban	21725	912	188	186	82781	33282
West Kittsondale	76156	3196	660	650	290183	116668
West Seventh	29938	1256	259	256	114073	45863
Monitored Locations						

Table 7: Q3 (Jul-Sep) Pollutant Loading

Subwatershed	CI	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	34405	2496	585	601	256147	82424
Beaver Lake	3627	263	62	63	27006	8690
Belt Line	94905	6886	1613	1657	706568	227363
Crosby	46126	3347	784	805	343407	110503
Davern	43717	3172	743	763	325476	104733
Downtown	25020	1815	425	437	186271	59939
East Kittsondale	13897	2298	416	487	186182	64271
Fish Creek	1378	100	23	24	10259	3301
Goodrich/Western	16202	1176	275	283	120622	38814
Griffith/Pt. Douglas	16164	1173	275	282	120345	38725
Hidden Falls	1307	136	27	33	14797	3074
Highwood	32346	2347	550	565	240819	77492
Lake Como	37129	2694	631	648	276425	88949
Lake Phalen	24358	1767	414	425	181345	58354
Mississippi River Blvd.	84662	6143	1438	1478	630308	202824
MRWMO	5769	419	98	101	42951	13821
Phalen Creek	5925	1365	319	266	172293	137370
Pigs Eye	69151	5017	1175	1207	514834	165666
Riverview	33394	2423	567	583	248620	80002
St. Anthony Hill	102907	7466	1748	1797	766146	246534
St. Anthony Park	29336	2520	467	660	227756	83092
Trout Brook	62810	2548	860	615	340515	96956
Urban	10737	779	182	187	79940	25723
West Kittsondale	42621	3092	724	744	317313	102107
West Seventh	16413	1191	279	287	122194	39320
Monitored Locations						

Table 8: Q4 (Oct-Dec) Pollutant Loading (lbs)

Subwatershed	Cl	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	36567	713	256	299	61507	22423
Beaver Lake	4468	87	31	37	7515	2740
Belt Line	116899	2280	818	957	196625	71681
Crosby	50700	989	355	415	85278	31089
Davern	48053	937	336	393	80826	29466
Downtown	27680	540	194	227	46559	16973
East Kittsondale	577	15	4	7	963	254
Fish Creek	1465	29	10	12	2463	898
Goodrich/Western	17925	350	125	147	30150	10991
Griffith/Pt. Douglas	17180	335	120	141	28898	10535
Hidden Falls	1307	136	27	33	14797	3074
Highwood	34379	671	241	281	57826	21081
Lake Como	40811	796	286	334	68645	25025
Lake Phalen	10900	900	191	231	69455	26343
Mississippi River Blvd.	93058	1815	651	762	156525	57063
MRWMO	6341	124	44	52	10666	3888
Phalen Creek	7745	961	260	66	45183	25459
Pigs Eye	73497	1433	514	602	123623	45068
Riverview	35493	692	248	291	59699	21764
St. Anthony Hill	113851	2221	797	932	191499	69813
St. Anthony Park	59699	719	309	445	83347	28690
Trout Brook	35957	577	257	222	50408	17698
Urban	11412	223	80	93	19195	6998
West Kittsondale	46848	914	328	384	78799	28727
West Seventh	18158	354	127	149	30542	11135
Monitored Locations						


ILLICIT DISCHARGE TRAINING
PART 1 – BASIC ORIENTATION
CITY OF SAINT PAUL
2019

1


TRAINING PROGRAM
• PART 1 – BASIC ORIENTATION
• PART 2 – FIELD AWARENESS (2020)
• PART 3 – COMPLAINTS, VIOLATIONS AND ENFORCEMENT (TBD)

2

ORIENTATION OVERVIEW

GOAL: UNDERSTAND WAYS THAT LAKES AND RIVER CAN BE POLLUTED

- STORMWATER DISCHARGE
  - WHAT IS IT
  - WHY IS IT IMPORTANT
- CITY'S RESPONSIBILITIES
  - "MS4" PROGRAM
  - CHAPTER 51
- WHAT IS PROHIBITED (ILLICIT DISCHARGE)
  - CODE LANGUAGE
  - EXAMPLES

3

STORMWATER DISCHARGE

- RAIN CREATES RUNOFF
- ALL RUNOFF GOES TO LAKES AND RIVERS VIA SEWER SYSTEM
- STORMWATER IS NOT TREATED AND CARRIES POLLUTANTS
  - LAND USE AND WATER QUALITY ARE LINKED

4

CITY RESPONSIBILITIES

FEDERAL / STATE

- EPA CLEAN WATER ACT / MPCA
- MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

LOCAL CONTROL

- CHAPTER 51
  - ALLOWABLE DISCHARGES TO THE STORM SEWER SYSTEM
  - ADOPTED 2013

5

WHAT IS PROHIBITED

Non-stormwater discharge. Any substance not composed entirely of stormwater.

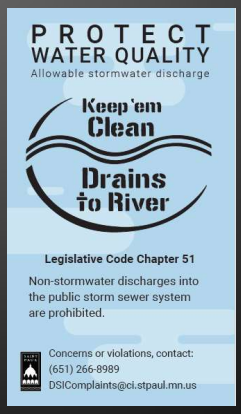
Prohibited discharge. Any introduction of non-stormwater discharge to the city's municipal separate storm sewer system or to surface waters within the city, unless specifically exempted under section 51.03(b) of this chapter.

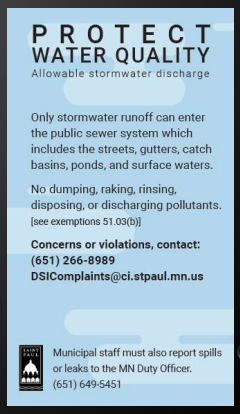
(a) No person shall cause any non-stormwater discharges to enter the city's municipal separate storm sewer system, or to any surface waters within the city, unless specifically exempted under paragraph (b) of this section.

6

WATER QUALITY CARD

- EDUCATIONAL TOOL
- QUICK CODE REFERENCE
- CONTACT/POINT OF ENTRY
- STAFF REPORTING RESPONSIBILITY





7

TYPICAL EXAMPLES

DRY WEATHER FLOW

AKA

DUMPSTER "JUICE"

8

TYPICAL EXAMPLES

RAKING LEAVES INTO THE STREET

IN 2017, NEARLY 70 LEAF LETTERS WERE GENERATED BY DSI

(c) No person shall intentionally dispose of substances including, but not limited to, grass, leaves, dirt, or landscape material into the city's municipal separate storm sewer system or to any surface waters within the city.

9

TYPICAL EXAMPLES

SPILLS AND/OR DISPOSAL

HIDDEN FALLS CREEK AT CITY'S REGIONAL PARK

(c) No person shall intentionally dispose of substances including, but not limited to, grass, leaves, dirt, or landscape material into the city's municipal separate storm sewer system or to any surface waters within the city.

10

TYPICAL EXAMPLES

SPILLS AND/OR DISPOSAL

11

TYPICAL EXAMPLES

CROSS-CONNECTIONS OF SANITARY INTO STORM

PROPERTY IN SAINT PAUL, CORRECTED IN 2015

Sec. 51.04. Prohibited MS4 connections.

No person shall construct, use, or maintain any connection to intentionally convey non-stormwater to the city's municipal separate storm sewer system. This prohibition expressly includes, without limitation, connections made in the past regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection. A person is considered to be in violation of this chapter if the person connects a line conveying non-stormwater to the storm sewer system, or allows such a connection to continue.

12

WRAP UP

- BASIC ORIENTATION
  - STORMWATER DISCHARGE
  - CITY'S RESPONSIBILITIES
    - "MS4" PROGRAM
    - CHAPTER 51
  - WHAT IS PROHIBITED (ILLICIT DISCHARGE)
- GOAL: UNDERSTAND WAYS THAT LAKES AND RIVER CAN BE POLLUTED

13

Illicit Discharge Training

Sign In Sheet

Date: November 8, 2019

Department/Division: DSI - Code Enf

Program Content: Module 1 - Basic Orientation
(w/ WQ cards: 24x5)

Attendees

Name	Name
SEAN WESTENHAFER	
Stephan Swon	
Willie Williams	
Paula Seeley	
Dick Kedrowski	
Lisa Martin	
Andrew McCullough	
Daniel Hesse	
Steve Meyers	
Joe Yannarelly	
Reid Soley	

Illicit Discharge Training

Sign In Sheet

Date: December 18, 2019

Department/Division: DSI / Fire Safety

Program Content: Module 1 - Basic Orientation (w/ WQ Cards) 2x 28

Attendees

Name	Name
Ann Blaser	Laura Shaff
Ryan Struckmann	LAURA HUSERSY
Maicee Hervang	Brian Schmidt
A.J. Neis	Marie Gavin
DER VUE	Jeff Hermanson
Jim PERUCCA	Angie Wiese
Sebastian Mittel	Georg Niemann
James Thomas	Grant Heitman
Jack Toeller	Mitch Imbertson
Isaiah Schoeman	
Efrayn Franquiz	
Adam Powers	

CONTROLLING RIGHT-OF-WAY IMPACTS TO WATERS

UTILITY COORDINATION MEETING

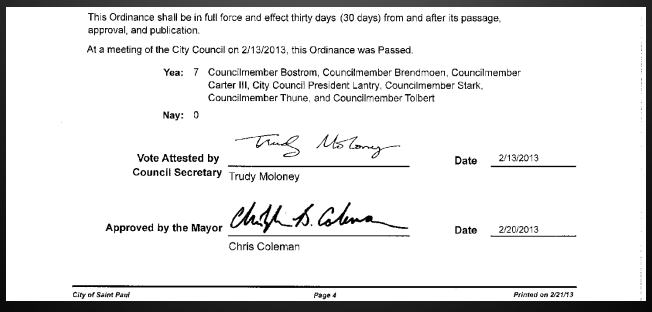
WES SAUNDERS-PEARCE
WATER RESOURCE COORDINATOR
CITY OF SAINT PAUL
FEBRUARY 19, 2019

1

WATER QUALITY ORDINANCE

CHAPTER 51.

ALLOWABLE DISCHARGES TO THE STORM SEWER SYSTEM



This Ordinance shall be in full force and effect thirty days (30 days) from and after its passage, approval, and publication.

At a meeting of the City Council on 2/13/2013, this Ordinance was Passed.

Yea: 7 Councilmember Bostrom, Councilmember Brendmoen, Councilmember Carter III, City Council President Lantry, Councilmember Stark, Councilmember Thune, and Councilmember Tolbert

Nay: 0

Vote Attested by Council Secretary Trudy Moloney — **Date** 2/13/2013

Approved by the Mayor Chris Coleman — **Date** 2/20/2013

City of Saint Paul *Page 4* *Printed on 2/21/13*

2

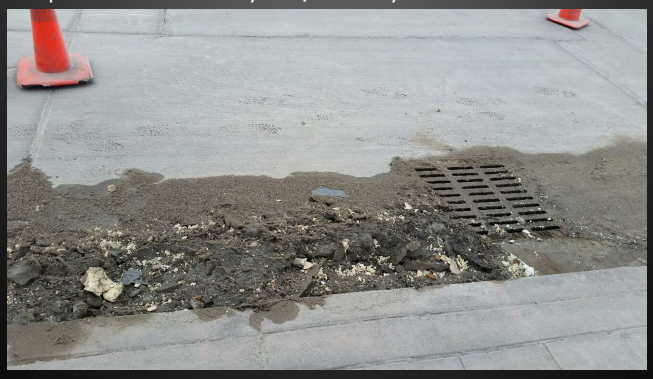
FOCUS OF LOCAL CONTROL

- KEEP POLLUTION OUT OF THE STORM SEWER SYSTEM
  - CURB AND GUTTER
  - CATCH BASINS
  - PIPES
- BROADLY PROHIBITS "NON-STORMWATER"
- SPECIFIC REQUIREMENT OF CLEAN WATER ACT

3

SEC. 51.03 NON-STORMWATER DISCHARGES.

No person shall cause any non-stormwater discharges to enter the city's municipal separate storm sewer system, or to any surface waters within the city



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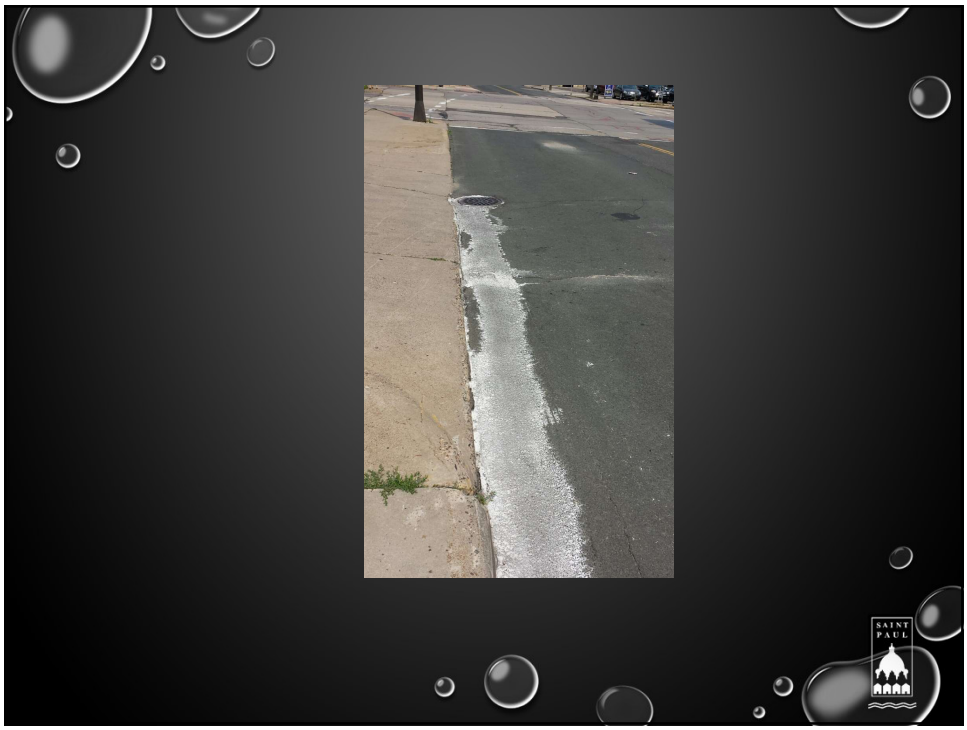

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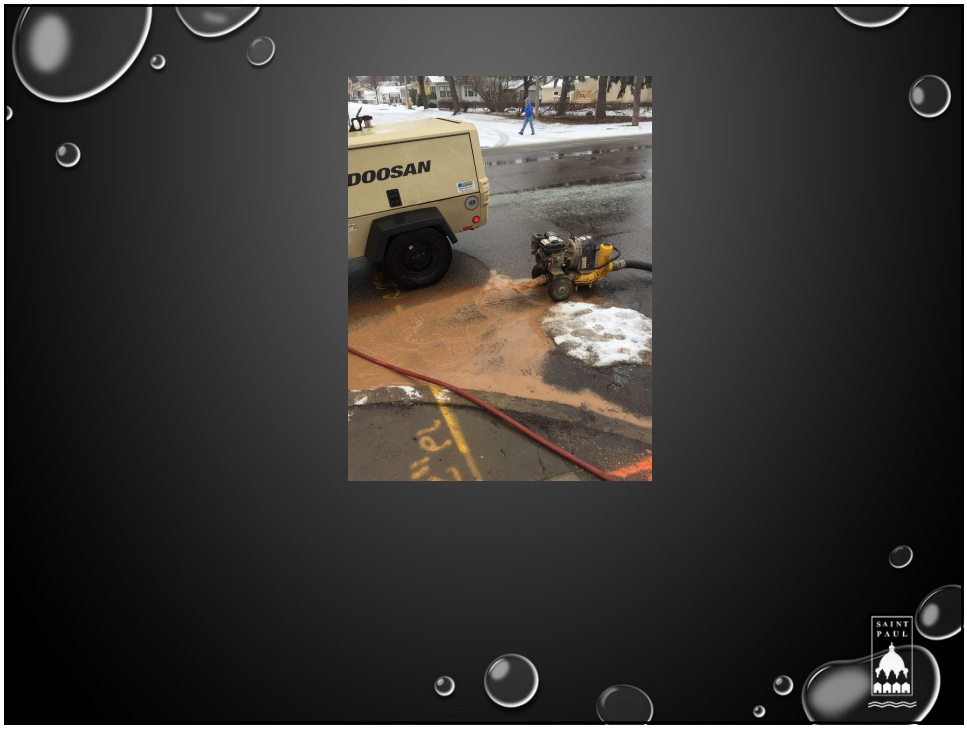

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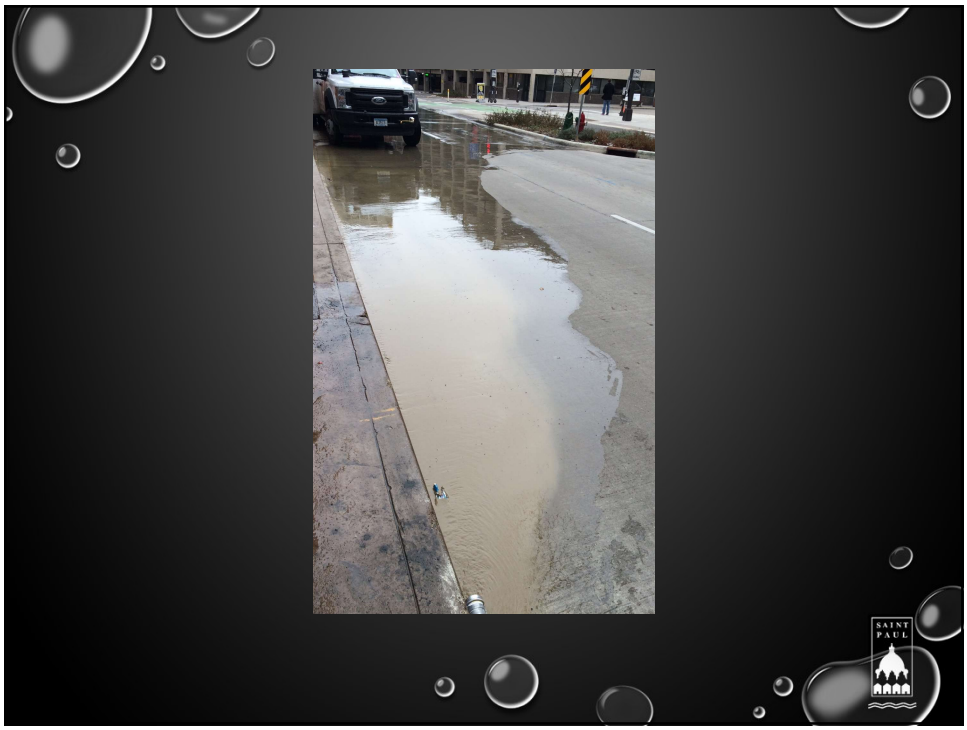

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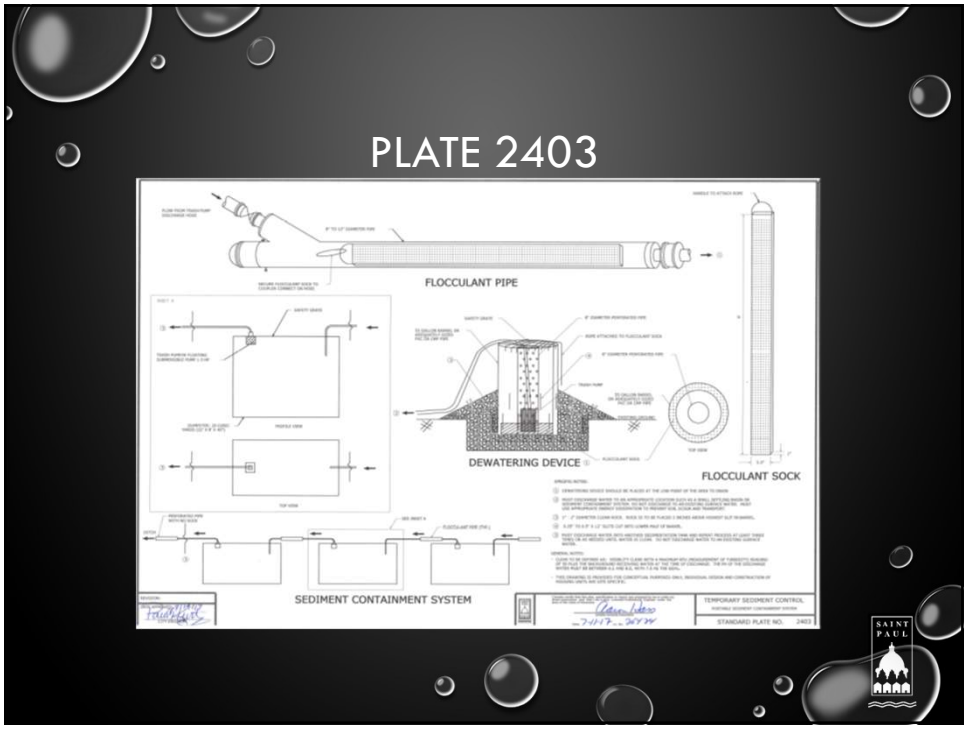
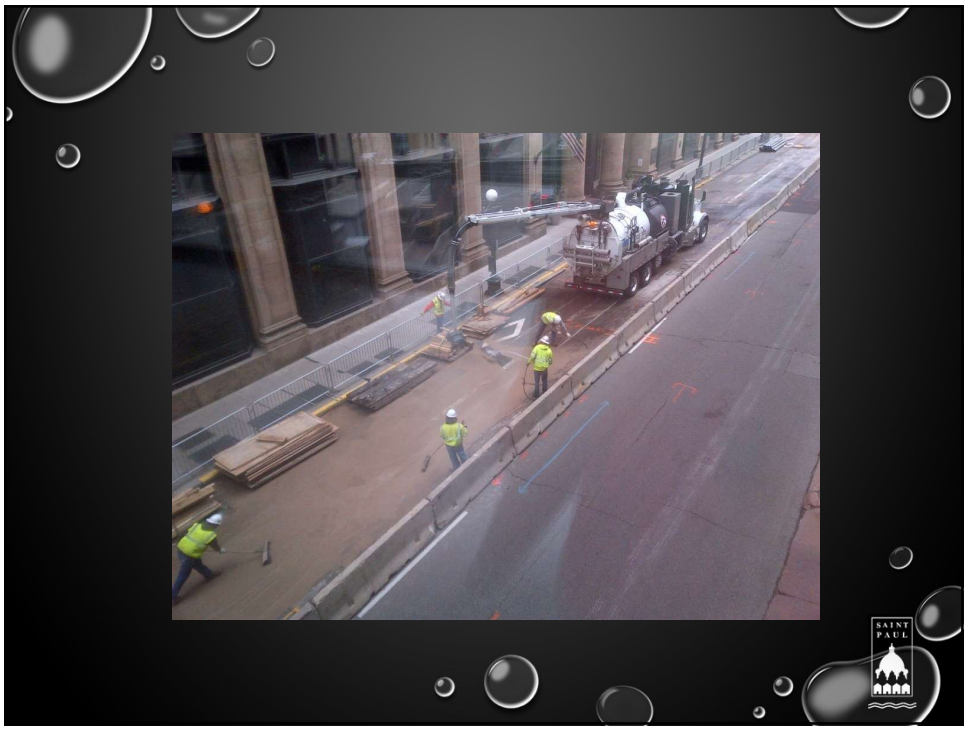


PLATE 2403
FLOCCULANT PIPE
DEWATERING DEVICE
FLOCCULANT SOCK
SEDIMENT CONTAINMENT SYSTEM
TEMPORARY SEDIMENT CONTROL
STANDARD PLATE NO. 2403

9



10


2019
UTILITY COORDINATION MEETING
DRAINS TO
MISSISSIPPI RIVER
Keep 'em
Clean
Drains
to River
SAINT
PAUL

11

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

TMDL Annual Report Form

Municipal Separate Storm Sewer Systems (MS4) Program

Doc Type: Annual Report

Form Information

This form is to be completed annually by MS4s in order to track the completed BMP activities and to calculate the cumulative loading reduction for specific pollutants of concern associated with each applicable WLA. Navigate through this form using the tabs at the bottom of the page. All information is collected in accordance with Part III.E of the MS4 Permit.

Green Tabs (REQUIRED): user-input worksheet
Blue Tabs (hidden*): optional user-input worksheet
Yellow Tabs (hidden*): reference worksheet

*Reveal hidden spreadsheet tabs by navigating to Home->Cells->Format->Hide & Unhide->Unhide Sheet

Please refer to the Guidance for Completing the TMDL Reporting Form in the Minnesota Stormwater Manual for additional assistance and instructions. Sections of the guidance are hyperlinked throughout this spreadsheet.

User Information

Date Updated: 4/10/2020

Permittee: St. Paul

Permit ID: MN0061263

Contact Name: Huong Hoang

Contact Phone: 651-266-6231

Contact email: huong.hoang@ci.stpaul.mn.us

Mailing address: 25 W 4th St, St. Paul, MN 55102

Reporting Year	Data Entry Date	Entered by	Notes

Required			Required					Optional		Como Lake: Excess Nutrients TMDL	South Metro Mississippi River TMDL (Metro)	Twin Cities Metro Area Chloride TMDL	Ramsey-Washington Metro Watershed District TMDL	Ramsey-Washington Metro Watershed District TMDL	Ramsey-Washington Metro Watershed District TMDL
BMP/Activity	Location and ID Information Needed?	BMP ID	y-coord (lat, e.g. 44.9866)	x-coord (long, e.g. -93.2581)	Coordinate system (e.g. lat-long, UTM)	Who owns this BMP/activity?	If applicable, name other owner(s)	Year when BMP was implemented	Note(s)	Como Lake - Phosphorus	South Metro Mississippi River TMDL (Metro) - TSS	Battle Creek; Como Lake; Kasota Ponds North; Kasota Ponds West; Mallard Marsh - Chloride	Battle Creek -TSS	Fish Creek - E. coli	Wakefield Lake - Phosphorus
Infiltrator	Complete columns H through K		44.9387	-93.1441	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Lincoln and Oxford		X				
Infiltrator	Complete columns H through K		44.9371	-93.144	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Fairmount and Oxford (North)		X				
Infiltrator	Complete columns H through K		44.9364	-93.144	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Fairmount and Oxford (South)		X				
Infiltrator	Complete columns H through K		44.9377	-93.1415	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Chatsworth and Goodrich		X				
Infiltrator	Complete columns H through K		44.936	-93.1415	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Chatsworth and Osceola		X				
Infiltrator	Complete columns H through K		44.9317	-93.014	Lat-long	Permittee (you)	NA	2006	Londin Lane-Burlington Road Reconstruction		X				
Infiltrator	Complete columns H through K		44.9641	-93.1578	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Hamline and Englewood		X				
Infiltrator	Complete columns H through K		44.9641	-93.1542	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Syndicate and Englewood		X				
Infiltrator	Complete columns H through K		44.9643	-93.1517	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Griggs and Englewood		X				
Infiltrator	Complete columns H through K		44.9661	-93.1542	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Syndicate and Hubbard		X				
Infiltrator	Complete columns H through K		44.9668	-93.1542	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Syndicate and Hewitt		X				
Infiltrator	Complete columns H through K		44.9672	-93.1543	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Syndicate and Taylor		X				
Infiltrator	Complete columns H through K		44.9285	-93.1517	Lat-long	Permittee (you)	NA	2007	Jefferson/Griggs Trench at Palace and Griggs		X				
Infiltrator	Complete columns H through K		44.9283	-93.1503	Lat-long	Permittee (you)	NA	2007	Jefferson/Griggs Trench at Palace and Edgecumbe		X				
Infiltrator	Complete columns H through K		44.9301	-93.1543	Lat-long	Permittee (you)	NA	2007	Jefferson/Griggs Trench at Syndicate and Juliet		X				
Infiltrator	Complete columns H through K		44.9311	-93.1543	Lat-long	Permittee (you)	NA	2007	Jefferson/Griggs Trench at Syndicate and Wellesley		X				
Infiltrator	Complete columns H through K		44.9904	-93.035	Lat-long	Permittee (you)	NA	2007	White Bear/Burns Trench at Christie and Idaho		X				
Infiltrator	Complete columns H through K		44.9467	-93.0303	Lat-long	Permittee (you)	NA	2007	White Bear/Burns Trench at Kennard and Louise				X		
Infiltrator	Complete columns H through K		44.9445	-93.0277	Lat-long	Permittee (you)	NA	2007	White Bear/Burns Trench at Flandrau and Upper Afton				X		
Infiltrator	Complete columns H through K		44.9465	-93.0557	Lat-long	Permittee (you)	NA	2008	Earl/McLean Trench at Mounds and Ext		X				
Infiltrator	Complete columns H through K		44.9461	-93.0533	Lat-long	Permittee (you)	NA	2008	Middle Trench on Mounds (Earl/McLean)		X				
Infiltrator	Complete columns H through K		44.9482	-93.0501	Lat-long	Permittee (you)	NA	2008	Easternmost Trench on Mounds (Earl/McLean)		X				
Infiltrator	Complete columns H through K		44.9473	-93.0543	Lat-long	Permittee (you)	NA	2008	Earl/McLean Trench at Frank and Thorn		X				
Infiltrator	Complete columns H through K		44.9493	-93.0414	Lat-long	Permittee (you)	NA	2008	Earl/McLean Trench at Etna and Burns		X				
Infiltrator	Complete columns H through K		44.9843	-93.0329	Lat-long	Permittee (you)	NA	2008	Ivy/Kennard Trench at Germain and Sherwood		X				
Infiltrator	Complete columns H through K		44.9825	-93.0329	Lat-long	Permittee (you)	NA	2008	Ivy/Kennard Trench at Germain and Cottage		X				
Infiltrator	Complete columns H through K		44.9816	-93.0329	Lat-long	Permittee (you)	NA	2008	Ivy/Kennard Trench at Germain and Ivy		X				
Infiltrator	Complete columns H through K		44.9215	-93.1287	Lat-long	Permittee (you)	NA	2008	Seventh/Bay Trench at Bay and Butternut		X				
Infiltrator	Complete columns H through K		44.9819	-93.1884	Lat-long	Permittee (you)	NA	2009	Knapp/Raymond Trench on Carter		X				
Infiltrator	Complete columns H through K		44.9816	-93.1888	Lat-long	Permittee (you)	NA	2009	Knapp/Raymond Trench in Alley		X				
Infiltrator	Complete columns H through K		44.9797	-93.1877	Lat-long	Permittee (you)	NA	2009	Knapp/Raymond Trench on Knapp		X				
Infiltrator	Complete columns H through K		44.9357	-93.19	Lat-long	Permittee (you)	NA	2009	Cretin/Goodrich Trench at Sargent and Finn		X				
Infiltrator	Complete columns H through K		44.978	-93.1359	Lat-long	Permittee (you)	NA	2009	Victoria/Arlington Trench at Como Lake Dr and Maryland	X					
Infiltrator	Complete columns H through K		44.9626	-93.0741	Lat-long	Permittee (you)	NA	2009	Payne Trench at Payne and Minnehaha		X				
Infiltrator	Complete columns H through K		44.9552	-93.1289	Lat-long	Permittee (you)	NA	2010	St Albans Trench Aurora to University		X				
Infiltrator	Complete columns H through K		44.9554	-93.1187	Lat-long	Permittee (you)	NA	2010	Arundel Trench Aurora to University		X				
Infiltrator	Complete columns H through K		44.9731	-93.1365	Lat-long	Permittee (you)	NA	2010	Front/Victoria Trench at Victoria and Orchard	X					
Infiltrator	Complete columns H through K		44.9698	-93.1415	Lat-long	Permittee (you)	NA	2010	Front/Victoria Trench at Chatsworth and Front	X					
Infiltrator	Complete columns H through K		44.9688	-93.1416	Lat-long	Permittee (you)	NA	2010	Front/Victoria Trench at Chatsworth and Burgess	X					
Infiltrator	Complete columns H through K		44.9732	-93.1385	Lat-long	Permittee (you)	NA	2010	Infiltration Manole on Colne Street	X					
Infiltrator	Complete columns H through K		44.9735	-93.1395	Lat-long	Permittee (you)	NA	2010	Infiltration Manole on Ryde Street	X					
Infiltrator	Complete columns H through K		44.9678	-93.0599	Lat-long	Permittee (you)	NA	2010	Beacon/Bluff Infiltration system at Wells/Duchess		X				
Infiltrator	Complete columns H through K		44.961	-93.1543	Lat-long	Permittee (you)	NA	2011	Blair/Griggs Trench at Syndicate and Blair		X				
Infiltrator	Complete columns H through K		44.96	-93.1517	Lat-long	Permittee (you)	NA	2011	Blair/Griggs Trench at Griggs and Lafond		X				
Infiltrator	Complete columns H through K		44.96	-93.1492	Lat-long	Permittee (you)	NA	2011	Blair/Griggs Trench at Dunlap and Lafond		X				
Infiltrator	Complete columns H through K		44.9624	-93.1492	Lat-long	Permittee (you)	NA	2011	Blair/Griggs Trench at Dunlap and Van Buren		X				
Infiltrator	Complete columns H through K		44.9668	-93.1804	Lat-long	Permittee (you)	NA	2012	Hewitt/Tatum Trench at Tatum and Hewitt		X				
Infiltrator	Complete columns H through K		44.9652	-93.1804	Lat-long	Permittee (you)	NA	2012	Hewitt/Tatum Trench at Tatum and Pennock		X				
Infiltrator	Complete columns H through K		44.9008	-93.1792	Lat-long	Permittee (you)	NA	2012	Madison/Benson Trench at Sue and Wordsworth		X				
Infiltrator	Complete columns H through K		44.9008	-93.178	Lat-long	Permittee (you)	NA	2012	Madison/Benson Trench at Edgecumbe and Wordsworth		X				
Infiltrator	Complete columns H through K		44.9879	-93.0295	Lat-long	Permittee (you)	NA	2012	Hillcrest Knoll Park and Dale Street stormwater improvement at Hillcrest Knoll Park		X				
Infiltrator	Complete columns H through K		44.9694	-93.1985	Lat-long	Permittee (you)	NA	2013	Hampden Park Trench		X				
Infiltrator	Complete columns H through K		44.9761	-93.0929	Lat-long	Permittee (you)	NA	2014	Trout Brook Nature Sanctuary (South of Maryland)		X				
Infiltrator	Complete columns H through K		44.9741	-93.0931	Lat-long	Permittee (you)	NA	2014	Trout Brook Nature Sanctuary (at Magnolia Ave)		X				
Infiltrator	Complete columns H through K		44.9711	-93.0922	Lat-long	Permittee (you)	NA	2014	Trout Brook Nature Sanctuary (at Jenks Ave)		X				
Infiltrator	Complete columns H through K		44.9483	-93.1165	Lat-long	Permittee (you)	NA	2014	Western Ave Trench at Western and Marshall		X				
Infiltrator	Complete columns H through K		44.9124	-93.1678	Lat-long	Permittee (you)	NA	2014	Montreal Ave Trench at Montreal and Snelling		X				
Infiltrator	Complete columns H through K		44.9771	-93.145	Lat-long	Permittee (you)	NA	2015	Como-Chatsworth Filtration Basin (East) at Horton and Churchill	X					
Infiltrator	Complete columns H through K		44.9772	-93.1446	Lat-long	Permittee (you)	NA	2015	Como-Chatsworth Filtration Basin (West) at Como and Churchill	X					
Infiltrator	Complete columns H through K		44.9746727	-93.137728	Lat-long	Permittee (you)	NA	2016	Como-Chatsworth Phase II Trench	X					
Manufactured_device	No ID information needed	NA	44.9579816	-93.0916384	Lat-long	Permittee (you)	NA	2016	University Ave Trench at 12th St		X				
Manufactured_device	No ID information needed	NA	44.976571	-93.190874	Lat-long	Permittee (you)	NA	2016	Raymond Ave Phase III Trench at Priscilla		X				
Manufactured_device	No ID information needed	NA	44.973888	-93.1465827	Lat-long	Permittee (you)	NA	2016	McMurray Field at Lexington and Jessamine	X					
Manufactured_device	No ID information needed	NA	44.9795891	93.1931973	Lat-long	Permittee (you)	NA	2017	Como 2017 Trench at Hillside		X				
Manufactured_device	No ID information needed	NA	44.9756049	-93.1356788	Lat-long	Permittee (you)	NA	2017	Como Park HS at Rose	X					
Manufactured_device	No ID information needed	NA	44.9775139	-93.1354225	Lat-long	Permittee (you)	NA	2017	Wheelock Parkway CDS structure at Victoria	X					
Infiltrator	Complete columns H through K		44.9805571	-93.130087	Lat-long	Permittee (you)	NA	2017	Wheelock Parkway Trench at Alameda	X					
Infiltrator	Complete columns H through K		44.9419077	-93.0202492	Lat-long	Permittee (you)	NA	2017	Battle Creek Trench at Upper Afton				X		
Infiltrator	Complete columns H through K		44.9900725	-93.0479802	Lat-long	Permittee (you)	NA	2017	Idaho-Atlantic at Atlantic		X				
Infiltrator	Complete columns H through K		44.9900539	-93.0473107	Lat-long	Permittee (you)	NA	2017	Idaho-Atlantic at Chamber		X				
Manufactured_device	No ID information needed	NA	44.9537302	-93.04947254	Lat-long	Permittee (you)	NA	2018	Jackson St at 12 St		X				
Manufactured_device	No ID information needed	NA	44.9306828	-93.1959043	Lat-long	Permittee (you)	NA	2018	Woodlown-Jefferson at Woodlawn		X				
Infiltrator	Complete columns H through K		44.9828368	-93.1962685	Lat-long	Permittee (you)	NA	2018	Como Ave at Luther		X				
Infiltrator	Complete columns H through K		44.9829326	-93.1185004	Lat-long	Permittee (you)	NA	2018	Wheelock Parkway at Arundel		X				
Infiltrator	Complete columns H through K		44.9604272	-93.0461671	Lat-long	Permittee (you)	NA	2018	Margaret St at Sixth		X				
Infiltrator	Complete columns H through K		44.9188322	-93.1349173	Lat-long	Permittee (you)	NA	2018	Stewart Rain Garden at Otto		X				
Swale_or_strip	Complete columns H through K		44.9739	-93.0411	Lat-long	Permittee (you)	NA	2009	Vegetated Swale on Magnolia (Mechanic to Barclay)		X				
Swale_or_strip	Complete columns H through K		44.9703	-93.0525	Lat-long	Permittee (you)	NA	2009	Vegetated Swale on Case (Frank to Duluth)		X				
Manufactured_device	No ID information needed	NA	44.9879	-93.0295	Lat-long	Permittee (you)	NA	2012	Dale Street Stormwater Improvement- Vortech Structure		X				
Infiltrator	Complete columns H through K				Lat-long	Permittee (you)	NA								

Cumulative Reductions Spreadsheet

Category 1: Summary of quantitative reductions (Annual Pollutant Load Reduction).											Optional	
Permittee	MS4 ID	TMDL project	Units	2019	2020	2021	2022	2023	2024	2025	Calculation method	Notes
St. Paul	MN0061263	Como Lake - Phosphorus	pounds reduced	29.56								
St. Paul	MN0061263	South Metro Mississippi River TMDL (Metro) - TSS	pounds reduced	247,689.00								
St. Paul	MN0061263	Battle Creek; Como Lake; Kasota Ponds North; Kasota Ponds West; Mallard Marsh - Chloride	pounds reduced	0.00								
St. Paul	MN0061263	Battle Creek -TSS	pounds reduced	4,497.00								
St. Paul	MN0061263	Fish Creek - E. coli	pounds reduced	0.00								
St. Paul	MN0061263	Wakefield Lake - Phosphorus	pounds reduced	0.00								

Category 2: Summary of qualitative reductions (# of BMPs).									Optional
Permittee	MS4 ID	TMDL project	2019	2020	2021	2022	2023	2024	2025	Notes
St. Paul	MN0061263	Como Lake - Phosphorus								
St. Paul	MN0061263	South Metro Mississippi River TMDL (Metro) - TSS								
St. Paul	MN0061263	Battle Creek; Como Lake; Kasota Ponds North; Kasota Ponds West;								
St. Paul	MN0061263	Battle Creek -TSS								
St. Paul	MN0061263	Fish Creek - E. coli								
St. Paul	MN0061263	Wakefield Lake - Phosphorus								

Non-implemented activities (BMP Inventory)

						Place an "X" in a cell if the activity applies to the TMDL shown in the column					
Permittee	MS4 ID	BMP description	Status	Reporting year	Notes (Optional)	Como Lake - Phosphorus	South Metro Mississippi River TMDL (Metro) - TSS	Battle Creek; Como Lake; Kasota Ponds North; Kasota Ponds West; Mallard Marsh - Chloride	Battle Creek - TSS	Fish Creek - E. coli	Wakefield Lake - Phosphorus
St. Paul	MN0061263	Fairview Trench	Under construction	2021	Infiltration Trench		X				
St. Paul	MN0061263	Summit Bridge Project	Under construction	2021	Filtration Basin		X				
St. Paul	MN0061263	Wheelock Phase IV	Under construction	2021	Infiltration Trench		X				
St. Paul	MN0061263	Tedesco Project	Under construction	2021	Infiltration Trench		X				
St. Paul	MN0061263	Cherokee Heights	Under construction	2021	CDS Structures		X				
St. Paul	MN0061263	Como Aveune Trail Project	Planned	2022	2 Infiltration Trenches		X				
St. Paul	MN0061263	Johnson Parkway Trail	Planned	2022	1 Infiltration Trench		X				
St. Paul	MN0061263	Griggs/Scheffer BMPs	Planned	2022	5 Infiltration Trenches		X				
St. Paul	MN0061263	Bush/Desoto	Planned	2022	Infiltration Basin		X				
St. Paul	MN0061263	Ford Site	Planned	2022			X				

Provide an up-dated narrative describing any adaptive management strategies used (including projected dates) for making progress toward achieving each

The City of Saint Paul will be installing 8 infiltration trenches throughout the year in 2020. These infiltration trenches will be combined with multiple pretreatment structures to reduce the loading of TSS into the Mississippi River.

Concurrent with the in-house trenches, the City of Saint Paul will be working with BARR, CRWD, and WSB on the design/installation of a major stormwater management system at the Ford Redevelopment Site. This complex system will include bioinfiltration basins with IESF trenches, subsurface storage tanks with filtration systems, retention ponds, and rate control structures. Calculations on the effectiveness of TSS and Phosphorus removal throughout the site will be determined qualitatively and quantitatively and reported on in the future.

The 2020 year will also include the completion of a feasibility study for Bush/Desoto Pond. Based on the results improvements will be made to increase the infiltration basins overall effectiveness.