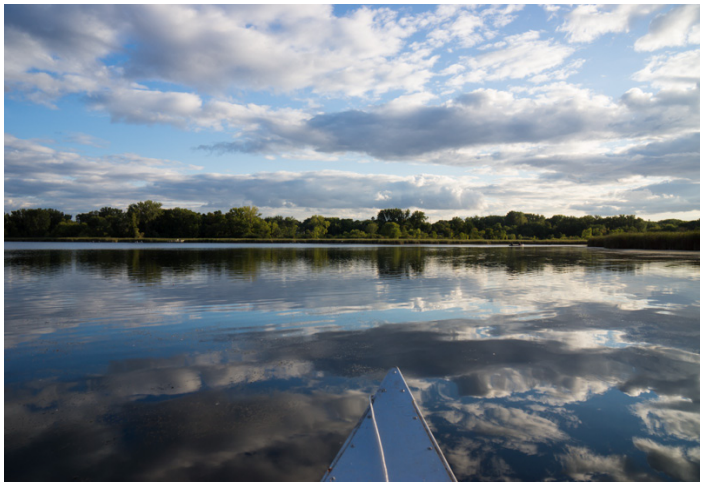


Surface Water Management

Introduction

St. Louis Park views its natural systems as a community asset that contributes to environmental and human health, connects neighborhoods, and provides recreation and economic value.

The city's surface waters include lakes, creeks, and wetlands, and St. Louis Park is located within two watersheds—Minnehaha Creek and Bassett Creek. These two watersheds are under the jurisdiction of Watershed Management Organizations (WMOs), the Minnehaha Creek Watershed District (MCWD) and the Bassett Creek Watershed Management Commission (BCWMC).

Where We Have Been

Prior to incorporation as a city, St. Louis Park grew by filling and draining wetlands, creating ditch systems, and using existing waterbodies for stormwater management. This type of development led to undersized stormwater infrastructure and degradation of natural resources.

More recently, however, surface water management has become a critical component of St. Louis Park's comprehensive planning. Its Surface Water Management Plan (SWMP) was first developed in 2001 and established a stormwater management plan for the city, integrating flood control with wetland and water quality needs. The SWMP was prepared in conformance with Minnesota Statutes 103B.235 and Minnesota Rules 8410.

Upon completion of the first generation SWMP, the city began to identify capital projects to prevent flooding and improve water quality by utilizing maintenance projects that expanded the capacity of existing stormwater facilities.

The current SWMP was updated in 2009 and provided a comprehensive planning guide for the city in preserving, protecting, and managing water resources within the community. The document established the goals and policies for surface water management, such as surface water quality, wetlands protection and restoration, surface water quantity, flood control, groundwater protection, erosion and sedimentation control, recreation, habitat and shoreland management, education and public involvement, and funding.

The 2009 SWMP emphasized meeting the policies and requirements of watershed organizations and other local, state, and federal agencies. The projects identified in that plan focused on upgrading existing facilities to the water treatment standards of that time in an effort to meet water quality regulations and reduce flooding of private property and streets.

Where We Are Today

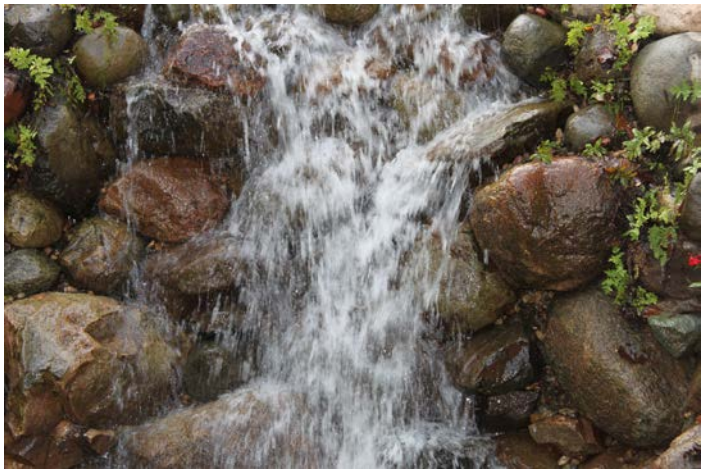
The city is updating its 2009 Surface Water Management Plan, and it is currently under agency review. The city is transitioning the stormwater management program from traditional ponds to other treatment measures that better remove pollutants and reduce volume. The city is also responding to changes in stormwater management rules from local watershed regulatory agencies and the Minnesota Pollution Control Agency (MPCA). The new regulations address treating stormwater on not only new construction, but redevelopment and linear projects such as new streets and highways.

In addition to regulatory changes, the city is adapting the stormwater management program to respond to updates to predicted rainfall volumes as detailed in the National Oceanic and Atmospheric Administration (NOAH) Atlas 14. Updated analysis of historic frequency of heavy rainfall events shows an increase from 5.9 inches in 24 hours to 7.8 inches in the same time period.

The city controls or owns 30% of the city's land area through parks, streets and right-of-way, and the city has implemented alternative treatment practices to reduce pollutants and control volume. For example, in the most recent pavement improvement projects, the city has been implementing best management practices (BMPs) such as pervious pavers, tree trenches and specialized manholes.

In order to go above and beyond regulations, and further influence surface water management on the remaining 70% of lands in private ownership, the city has also partnered with local watershed districts and private developers to advance multiple goals. For example, within the Brownie Lake watershed the Shops at West End development incorporated regional subsurface stormwater treatment and an infiltration vault underneath a large parking lot area, a green roof, and tree trenches. As a result of this project, the amount of nutrients discharging to the lake were reduced dramatically, by 48 pounds annually, far exceeding the ten-year reduction goal of 10 pounds annually for Brownie Lake.

The city also constructed a regional stormwater treatment facility in Carpenter Park, a city-owned parcel in the Bass Lake Preserve watershed. The project includes construction of a sub-surface stormwater treatment facility for a 42-acre watershed, which is projected to remove 27.6 pounds of total phosphorus from the watershed, annually. This treatment BMP is expected to almost double the existing stormwater treatment that discharges to Bass Lake Preserve, a significant wetland complex in the city that directly discharges to Bde Maka Ska.



Where We Are Going

The city seeks to improve surface water quality and reduce stormwater volumes. The challenges facing the city in the next 20 years are to develop a stormwater management plan for a fully developed community with an aging infrastructure, increased water quality standards, and anticipated increased rainfall events as a result of changing climate.

In order to address these goals and challenges the city must leverage partnerships to incorporate stormwater BMPs during planning and design of development and redevelopment projects. These BMPs aid in reducing runoff volumes and help minimize the quantity and concentration of pollutants in stormwater runoff. The indirect benefit of using these BMPs is that they help minimize the stress on the city's aging infrastructure.

The city also commissioned the development of a model which simulates hydrologic, hydraulics and water quality conditions throughout the city. The model provides the city with information about optimal locations to place BMPs for maximal effectiveness, and it evaluates the overall effectiveness of proposed BMPs associated with development and redevelopment projects.

During the development of its SWMP, the city partnered with its watershed management organizations, local businesses, and the public to identify mutual goals, opportunities and challenges related to surface water quality and stormwater management. Through this outreach the SWMP will incorporate a city-wide integrated and collaborative approach to maximize stormwater and natural system opportunities through land use changes.

Surface Water Management Goals and Strategies

1. Proactively work to reduce pollutants from storm water runoff

Strategies

A. Identify and construct regional treatment facilities.

B. Incorporate treatment and Best Management Practices (BMP's) in pavement management projects.

C. Promote and fund water treatment and infiltration projects through the Rainwater Rewards program.

D. Partner with private landowners and redevelopment projects to construct regional treatment facilities.

2. Provide education and outreach to community

Strategies

A. Educate and ensure that every person understands the stormwater and natural systems and where stormwater goes.

B. Promote stormwater runoff treatment programs, such as the Rainwater Rewards Program.

C. Continue to work with Westwood Hills Nature Center programs.

D. Sponsor clean up and planting events near surface water resources.

3. Enhance floodplain management to better identify flood risks

Strategies

A. Delineate floodplain using current rainfall information and data in stormwater modeling.

B. Utilize stormwater models to predict and identify at risk properties and categorize the level of risk.

C. Identify regional storage and management solutions.

4. Expand city's role in erosion and sediment control

Strategies

A. Enforce city rules and requirement for erosion control on both public and private construction projects.

B. Continue to maintain and repair existing BMP's as necessary.

C. Enhance the current street sweeping program by increasing frequency and efficiency of sweeping techniques.

D. Continue to implement BMPs in all parks and public works maintenance activities.

5. Continue partnerships with Minnehaha Creek Watershed District and the Bassett Creek Water Management Organization on stormwater management