CHAPTER 10: SURFACE WATER MANAGEMENT

Chapter 10 includes the following information:

1. Introduction
2. Purpose of the Plan
3. Plan Development
4. Sustainability
5. Stormwater Management System
6. Water Resources
7. Watershed Districts
8. Issues Assessment
9. Goals and Strategies

1. INTRODUCTION

This chapter presents an executive summary of the Comprehensive Surface Water Management Plan, which is attached in Appendix C. This chapter refers to the Comprehensive Surface Water Management Plan "CSWMP".

2. PURPOSE OF THE PLAN

This primary purpose of the CSWMP is twofold. First, it serves to further define the goals and policies that the City will follow as it continues to implement a comprehensive surface water management program. These goals and policies have been developed to support and facilitate the City in achieving the community vision, as described in the *Imagine Roseville 2025* Final Report (January 2007), and to shape the character and enhance the quality of life, as described in the 2040 Comprehensive Plan, currently in development. Secondly, the CSWMP serves to meet state and local regulatory requirements.

There are two primary programs that establish the regulatory need to update the City's Comprehensive Surface Water Management Plan. Minnesota Statutes, Sections 103B.201 to 103B.255, and Minnesota Rule, Chapter 8410, comprise the State's Metropolitan Surface Water Management Program (MSWMP). These Statutes and Rules require the preparation of watershed plans by watershed management organizations (WMOs) and the preparation of local (City) water management plans.

The purposes of the water management programs required by Minnesota Statutes §103B.205 to 103B.255 are to:

- Protect, preserve, and use natural surface and groundwater storage and retention systems;
- Minimize public capital expenditures needed to correct flooding and water quality problems;
- Identify and plan for means to effectively protect and improve surface and groundwater quality;
- Establish more uniform local policies and official controls for surface and groundwater management;
- Prevent erosion of soil into surface water systems;
- Promote groundwater recharge;
- Protect and enhance fish and wildlife habitat and water recreational facilities; and
- Secure the other benefits associated with the proper management of surface and groundwater.

A third regulatory program, very much related to the goals, policies, and standards of the CSWMP, is the National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Permit Program for Municipal Separate Storm Sewer Systems (MS4) that is administered in the State by the Minnesota Pollution Control Agency (MPCA) (http://www.pca.state.mn.us). The goals, policies, and standards of Roseville's CSWMP were developed to be consistent with the requirements of the City's NPDES MS4 permit and associated Stormwater Pollution Prevention Plan (SWPPP) as well as the respective WMO plans. The implementation program included in this Plan, and the SWPPP, are intended to be a coordinated effort to realize combined efficiencies.

3. Plan Development

This Plan builds on the previous plans adopted by the City in 1990, 2003, and 2013. Each of those previous plans established goals and policies, contained an assessment of issues, and called for implementation actions to address those issues. The current CSWMP was developed through a process of soliciting input from City Commissions, City Council, and the public on water resources issues, specific problem areas, and potential new topic areas and/or actions that the CSWMP should address. Input was obtained through a series of meetings and providing information on the City's stormwater web page. A summary of those efforts follows:

- Public Works, Environmental, and Transportation Commission – 3 Meetings
- Electronic Public Survey
- Online Discussion Forum on speakuproseville.org
- Public Open House Meeting
- City Council Review and Adoption of the Plan

4. Sustainability

Roseville is committed to the preservation and enhancement of its environment, and to the principle that each generation of residents must meet the needs of the present, without compromising the ability of future residents to meet their own needs. This approach to sustainability is a thread that is woven throughout the City's Comprehensive Plan. Upon adoption of the Comprehensive Surface Water Management Plan by City Council, it will become an integral component of the City's Comprehensive Plan. As in the Comprehensive Plan, this CSWMP will serve as a guide towards improving sustainability across all aspects of the City's surface water management program and activities.

5. Stormwater Management System

The City's storm sewer network and overall conveyance and treatment system is in place. Future changes to the system will primarily involve retrofitting to address flooding problems, to incorporate water quality treatment, or incorporate improvements at the time of redevelopment. This public storm sewer system consists of:

- 129 miles of pipe,
- 4,863 catch basins,
- 2,691 manholes,
- 129 public ponds,
- 165 special features (infiltration, biofiltration, water reuse, raingardens, etc.);
- 657 inlets and outlets, and
- 6 public storm-sewer lift stations.

6. Water Resources

Roseville has a significant number of lakes, ponds, and wetlands within its boundaries. As shown in the table below, five of the six lakes within the city are classified as impaired for one or more pollutant or stressor. These impairments mean that the lake water is not meeting state water quality standards established by the Minnesota Pollution Control Agency (MPCA). The Federal Clean Water Act (CWA) requires that states establish total maximum daily loads (TMDLs) of

pollutants to water bodies that do not meet water quality standards. Therefore, in the years ahead, each of these impaired waters will be subject to a TMDL Study that will result in an implementation plan that establishes a list of actions that will be needed to eliminate or manage the impairment. The City will need to work closely with the MPCA and local watershed organizations during the development of the TMDL Implementation Plans. For more information about impaired waters and TMDLs see www.pca.state.mn.us.

TABLE 10-1 LAKES IN ROSEVILLE. POLLUTANT DATA SOURCE: MINNESOTA POLLUTION CONTROL AGENCY

Lake Name	Surface Area (Acres)	Watershed Area (Acres)	Affected Designated Use	Pollutant or Stressor
Bennett	25.6	780	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators
			Aquatic Consumption	Mercury in Fish Tissue
Little Johanna	17.0	1774	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators
			Aquatic Consumption	Perfluorooctane Sulfonate (PFOS) in Fish Tissue
			Aquatic Life	Chloride
Josephine	111.3	782	Aquatic Consumption	Mercury in Fish Tissue
Langton (N&S)	16.5	241	NA	NA
McCarron	73	1240	Aquatic Consumption	Mercury in Fish Tissue
Owasso	366.6	2951	Aquatic Consumption	Mercury in Fish Tissue

In addition to the City's Surface waters, groundwater resources are vital to its ecological health, economic prosperity, and quality of life. But in some parts of the state, our underground supplies of water are under increasing demands for irrigation, industry, and domestic needs, putting them at risk of overuse and degradation. A statewide analysis of groundwater resources identified the north and east metro region of the Twin Cities as an area where such concerns exist. This area is growing in population, and water use is increasing. At the same time, it is rich in surface waters that are connected to and affected by groundwater levels. In portions of the area existing groundwater contamination further limits water availability to meet human needs. Communities, businesses, and agriculture in much of the region are entirely reliant on groundwater as a source of water supply. They are connected to one another through their use of the same aquifers and the cumulative effects of that use.

To better address these issues, the Minnesota Department of Natural Resources (DNR) has designated all of Washington and Ramsey Counties, along with portions of Anoka and Hennepin Counties, as the North and East Metro Groundwater Management Area (GWMA). This designation in November 2015 allows a more comprehensive and focused approach to ensuring that groundwater supplies remain adequate to meet human needs while protecting lakes, streams and wetlands. The North and East Metro Groundwater Management Area Plan will guide the DNR's efforts to manage groundwater appropriations sustainably in this area over the next five years. The North and East Metro Groundwater Management Area Plan establishes sustainability goals to help appropriation permit holders plan for their future water use, although it does not get into details of water management for any individual business or community. It proposes no immediate changes to particular permits, but it sets the stage for managing appropriations more carefully and comprehensively in the years ahead[1].

7. Watershed Districts

The City of Roseville falls under the jurisdiction of three watershed management agencies. They are the Rice Creek Watershed District (RCWD), the Ramsey-Washington Metro Watershed District (RWMWD), and the Capitol Region Watershed District (CRWD). All three of the Watershed Districts have jurisdictional authority within the city, and therefore each must review and approve the City's CSWMP to ensure consistency with the respective Watershed District Plan.

8. Issues Assessment

Over the years since the first plan was developed, the City has made significant improvements that reduce the extent of local flooding, provide water quality treatment benefits, and improve educational opportunities for its residents. A few of these example projects are highlighted in the CSWMP.

Many of the flooding issues of the past have been addressed, but some remain. New water quality issues and concerns are emerging each year, requiring varying levels of effort by the City to address. The ongoing maintenance and operation of the stormwater system has grown much more complex over the years due to new regulations and a better understanding of what is necessary to keep the stormwater management systems functioning properly. Specific issues addressed in the CSWMP include localized flooding issues, water quality impairments, operation and maintenance, education, outreach, and collaboration.

[1] North & East Metro Groundwater Management Area Plan, MN DNR November 2015

9. GOALS AND STRATEGIES

The following summarizes the goals related to surface water management in Roseville. These goals are a reflection of the City Council's desire to reach and sustain a high quality of life for the City's residents.

Goal – Flood Protection and Runoff Management: Provide flood protection to the maximum extent practicable for all residents and structures, and protect the integrity of our drainage and detention systems through stormwater management.

Strategies:

- The City shall require runoff rate control for land-disturbing activities exceeding one-half acre or creating/reconstructing an impervious area of 5,000 square feet or more.
- The City shall require volume reduction for development and redevelopment projects in accordance with watershed district rules and City standards.
- The City shall require structure freeboard elevations in accordance with watershed district rules and City code (Section 1017.17).
- The City shall enforce its Floodplain regulations (City Code Chapter 1021) which are designed to minimize flood losses and requires no net loss of storage volume.
- The City shall cooperate and collaborate with adjacent municipalities and watershed districts to address intercommunity drainage issues.
- The City staff shall provide technical assistance as requested to aid in public understanding and interpretation of local flood protection and runoff management requirements.

Goal – Surface Water Protection: Maintain or improve the water quality and ecological integrity of the City's lakes, ponds, and wetlands.

Strategies:

- The City shall enforce the Erosion and Sediment Control ordinance (City Code Section 803.04) for all land-disturbing activity greater than 5,000 square feet or adjacent to a water resource.
- The City shall require stormwater treatment through the Shoreland, Wetland, and Stormwater Management ordinance for land-disturbing activities exceeding one-half acre or creating 5,000 square feet of new impervious surface area. The level of treatment provided shall comply with the infiltration/volume reduction standards of treating a runoff volume of 1.1 inches for new or reconstructed impervious by infiltration or, if infiltration is

not feasible, by removal of 90 percent of total suspended solids and 60 percent of total phosphorus.

- The City delegates administration of the Wetland Conservation Act (WCA) to the Watershed Districts which will act as the Local Government Units (LGUs) for enforcing the regulations of WCA. The City shall be informed of and provide informal review of all wetland impacts within the City.
- The City shall cooperate and collaborate with the MPCA and local agencies in conducting and implementing TMDL projects for impaired waters within and downstream of the City.

Goal – Groundwater Protection: Protect the quality and quantity of groundwater through collaboration with local and state agencies managing groundwater resources.

Strategies:

- The City will follow the Minnesota Department of Health's (MDOH) guidance on evaluation of stormwater infiltration projects in vulnerable wellhead protection areas (WHPAs) and drinking water source management areas (DWSMAs) to determine if infiltration practices are appropriate.
- The City acknowledges the potential for stormwater infiltration practices to mobilize soil contaminants and shall support alternate volume reduction practices in areas of known or suspected soil contamination.
- The City shall encourage Low Impact Development (LID) to minimize imperviousness and promote naturally occurring groundwater recharge.
- The City shall promote water conservation practices, such as installing low-flow toilets, washing only full loads of laundry and dishes, and watering lawns and gardens only when needed and during the early morning or evening. A more comprehensive list of water conservation practices can be found on the City's website.

Goal – Public Education and Outreach: Promote stewardship and increase awareness of land and water resources through public education and outreach.

Strategies:

- The City will continue to implement an education and outreach program using a variety of media, including use of notices, mailings, local cable television, newsletters, articles in Roseville City News, web sites, workshops, and/or presentations to inform the community about water resource issues.
- The City will use a public involvement process in water resource management decision-making (i.e., through appointed Commissions and public meetings).

- The City will make an ongoing effort on both a local and regional level by distributing information to residents on responsible practices to protect water resources such as alternative landscapes, phosphorus free fertilizer, aquatic plant management, proper use of a wide range of lawn chemicals and proper disposal of hazardous household materials etc.
- The City will work with existing public and private resources to increase public participation in water resources management and disseminate information regarding each of the local watershed management organizations having jurisdiction within the city.

Goal – Pollution Prevention and Maintenance: Protect the quality of the City's water resources through pollution prevention, good housekeeping practices, and routine maintenance.

Strategies:

- The City encourages residents to take advantage of the free Ramsey County yard waste collection and prevention sites, Roseville Leaf Recycling Center, or backyard composting to prevent these potential sources of suspended solids and nutrients from reaching the storm sewer system and downstream receiving water bodies.
- The City encourages residents to properly dispose of household hazardous waste (cleaning products, automotive fluids, lawn and garden chemicals, etc.) at a Ramsey County collection site to prevent these potential sources of pollutants from reaching the storm sewer system and downstream receiving water bodies.
- The City prohibits non-stormwater discharges to the storm drainage system to the maximum extent practicable as described in the Section 803.03 (Stormwater Illicit Discharge and Connection) of the City Code. Illicit discharge of non-stormwater into the storm sewer system includes intentionally disposing of grass, leaves, dirt, or landscape material into a street/road/alley. Not cleaning up pet waste and disposing of it properly in the trash can also lead to illicit discharge.
- The City shall conduct street sweeping at least three times a year. The first sweep shall be as soon as practical in the spring. Stormwater sensitive areas (as displayed in Figure 20 of the CSWMP) are priorities and swept first throughout the year.
- The City prohibits the use of coal tar-based sealer on asphalt driveways and parking lots within the city to prevent Polycyclic Aromatic Hydrocarbons (PAHs) present in coal tar from contaminated stormwater runoff and downstream receiving water bodies (City Code Chapter 410).

Goal – Coordination and Collaboration: Simplify and streamline processes and draw upon the expertise and resources of other local, state, and federal agencies in water resources management efforts.

Strategies:

- The City will endeavor to inform developers about Federal, State, and local stormwater management regulations including the NPDES requirements, watershed district rules, floodplain regulations, and WCA rules.
- The City shall utilize educational materials and activities from watershed districts and other entities to deliver a consistent message regarding water resources and stewardship.
- City staff will be encouraged to attend watershed district hosted education programs directed at municipal officials and staff.
- The City shall seek opportunities to leverage limited available funding through project partnerships.
- The City shall promote existing programs that support plan goals such as the leaf recycling center, which includes compost and woodchips for property owners to use for landscaping practices which promote infiltration.

Goal – Sustainability: Achieve the water quality and water resources needs of the City based on the foundation of efficient use of community resources. In this approach, both capital costs and long-term operational costs will be considered, as well as the overall costs of a given project towards protection and/or improvement of the City water resources.

Strategies:

- The City will use the Fall 2011 version of the Metropolitan Council Stormwater Reuse Guide as a guide in considering water reuse on City projects.
- The City will strive to incorporate construction, building, and landscape designs and practices that mimic natural systems, and infiltrate, retain, and detain rainfall onsite, or can reduce excess flows into our sewers, streets, and waterways on City infrastructure projects.
- The City shall consider using trenchless technologies to reduce the impact on the ground surface and expose less disturbed area to erosion and runoff, when appropriate.
- The City shall consider using innovative BMPs and green infrastructure for stormwater treatment.
- The City shall seek to collaborate efforts with the Parks Renewal Program and incorporate multi-use green space.

- The City shall endeavor to incorporate pretreatment, treatment trains, and maintenance access for new and retrofit public stormwater treatment facility projects.
- The City shall consider installing flow meters to monitor its water usage.

Implementation Program and Funding

The Implementation Program is intended to provide guidance in carrying out the CSWMP goals and objectives. The Implementation Program and funding section summarizes capital improvement projects, studies and ongoing maintenance, inspection, monitoring, and other management activities. The current CSWMP is intended to serve the City for at least the next ten years and many of the program activities will continue out to the year 2030, or beyond.

The Implementation Plan should be reviewed on an annual basis. At that time, each proposed improvement is to be reconsidered, City budgets adjusted, and additional improvement projects or management activities added to or removed from the program. The City currently has a storm drainage utility fee in place which funds stormwater management related costs such as educational programs, construction of treatment systems and maintenance of the overall stormwater treatment and conveyance systems (storm sewer maintenance and street sweeping). The charges and fees will be reviewed and adjusted annually to ensure adequate funding for the activities set forth in this plan and those required by law.

Amendment Process

The Comprehensive Surface Water Management Plan is intended to extend approximately through the year 2027. In conjunction with the CSWMP, the NPDES SWPPP activities will be reviewed and evaluated annually in a public meeting, and the permit program itself will be updated as required by the MPCA NPDES permit program. For the CSWMP to remain dynamic, an avenue must be available to implement new information, ideas, methods, standards, management practices, and any other changes which may affect its intent and/or its results. Amendment proposals can be requested at any time, by any person or persons, either residing or having business within the City.

Request for Amendments

Any individual can complete a written request for a CSWMP amendment and submit the request to City staff. The request shall outline the specific items or sections of the CSWMP requested to be amended, describe the basis and need for the amendment, and explain the desired result of the amendment towards improving the management of surface water within the City. Following the initial request, staff may request that additional materials be submitted in order for staff to make a fully-informed decision on the request.

The City may also initiate an amendment to respond to amendment to a local watershed organization plan or following the completion and approval of a TMDL Implementation Plan.

Staff Review

Following a request for Plan amendments, staff will make a decision as to the completeness and validity of the request. If additional information is needed by staff to determine the validity of the request, staff will generally respond to the requestor within 30 – 60 days of receiving the request.

Following receipt of sufficient information such that validity of the request can be evaluated, there are three options which are described below:

a. Reject the amendment. Staff will reject the amendment if the request reduces, or has the potential to reduce, the ability of the CSWMP to achieve its overall goals and policies, or will result in the CSWMP no longer being consistent with one or more of the watershed district's plans.
b. Accept the amendment as a minor issue, with minor issues collectively added to the CSWMP at a later date. These changes will generally be to clarify provisions in the CSWMP or to incorporate new information available after its adoption in 2018. Minor changes will generally be evaluated on the potential of the request to help staff better implement and achieve the goals and policies of the CSWMP. Minor issues will not result in formal amendments, but will be tracked and incorporated formally into the CSWMP at the time any major changes are approved.
c. Accept the amendment as a major issue, with major issues requiring an immediate amendment. In acting on an amendment request, staff should recommend to the City Council whether or not a public hearing is warranted. In general, any requests for changes to the goals and policies or the development standards established in the CSWMP will be considered major amendments.

Staff will make every attempt to respond to an amendment request within 30 – 60 days of receiving sufficient information from the requestor. The timeframe will allow staff to evaluate the request internally and gather input from the Watershed Districts/WMOs and other technical resources, as needed. The response will describe the staff recommendation and which of the three categories the request falls into. The response will also outline the schedule for actions, if actions are needed to complete the requested amendment.

Watershed District Approval

All proposed major amendments must be reviewed and approved by the appropriate Watershed Districts prior to final adoption of the amendments. Major

amendments would include changes to the goals and policies of the CSWMP. Staff will review the proposed amendments with the Watershed Districts to determine if the proposed change is a major amendment, and if a proposal is determined to be major amendment, then City staff will assess the ability of the requested amendment to maintain consistency with Watershed District plans.

City Council Consideration

Major amendments and the need for a public hearing will be determined by staff, and if identified as a major amendment, the request will be considered at a regular or special City Council meeting. Staff recommendations will be considered before decisions on appropriate action(s) are made. The requestor will be given an opportunity to present the basis for, and intended outcomes of, the request at the public hearing and will be notified of the dates of all official actions relating to the request.

Public Hearing and City Council Action

The initiation of a public hearing will allow for public input or input based on public interest in the requested amendment. City Council, with staff recommendations, will determine when the public hearing should occur in the process. Consistent with other formal City Council actions and based on the public hearing, City Council would adopt the amendment(s), deny the amendment(s), or take other action.

City Council Adoption

Final action on any major amendments, following approval by the watershed Districts, is Council adoption. Prior to the adoption, an additional public hearing may be held to review the CSWMP changes and notify the appropriate stakeholders.