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# EXECUTIVE SUMMARY

Cold Spring's 2003 Comprehensive Surface Water Management Plan (CSWMP) provides a guide for surface water management in the City. The CSWMP is a roadmap and a tool to coordinate infrastructure improvements and meet the challenges that lay ahead, including:

- A significant amount of development is occurring in the City with associated improvements to the surface water system.
- Annexation and the extension of the City boundaries.
- The City's comprehensive plan update.
- New state and federal regulations, including the Minnesota Wetland Conservation Act and the NPDES Phase II municipal stormwater permit.
- The Sauk River Watershed District becoming more proactive in regional water management issues in and around the City.

## p BACKGROUND

The City of Cold Spring is a developing community with a rapidly expanding surface water system. The City is located entirely within the Sauk River watershed (refer to Maps 1 and 2).

Water resource management in the City is shared with six other regulatory organizations, each overseeing their respective jurisdictional responsibility. They are the Sauk River Watershed District (SRWD), Minnesota Department of Natural Resources (MnDNR), Stearns County, Minnesota Board of Soil and Water (BWSR), Minnesota Pollution Control Agency (MnPCA) and the Army Corps of Engineers (ACOE).

Land use is predominantly residential within the existing City limits and the project study area. Most of the large scale commercial and industrial activity is concentrated in the Northern, Eastern and Central portions of the City within the downtown district and along TH 23.



Since the City’s existing surface water system is largely near or at capacity and rapid growth is occurring, there is a strong need to expand the system. The focus of the CSWMP will be on managing the existing system, retrofitting improvements as needed, providing a roadmap for the installation of new facilities, establishing goals and policies to manage the stormwater, and protecting existing water resources.

**p PHYSICAL AND HYDROLOGIC SYSTEM**

As stated previously, Cold Spring lies entirely within one major watershed, the Sauk River Watershed, with all of its stormwater runoff flowing directly to either Brewery Creek, a designated trout stream tributary to the Sauk River, the Sauk River itself, or one of the lakes within the Chain of Lakes reservoir system on the Sauk River. The City’s hydrologic system and boundaries are shown on Maps 1 and 2.

The Cold Spring region contains a significant number of lakes, ponds, rivers, streams, and wetlands. Lake data are tabulated below.

**Lake Data Summary**

<b>Lake</b>	<b>DNR Identification Number</b>	<b>Surface Area (Acres)</b>	<b>Maximum Depth (Feet)</b>
Knaus	73-0086-00	205	20
Krays	73-0087-00	85	40
Great Northern	73-0083-00	213	19
Schneider	73-0082-00	53	52
Byer	73-0085-00	157	17

The Stearns County Soil Survey indicates that the City’s landscape is dominated by soils that have significant capacity for stormwater infiltration. However, as the City urbanizes, the capacity to infiltrate runoff will decrease with the increase of impervious areas (such as rooftops, parking lots, roadways, etc.).



## p SURFACE WATER MANAGEMENT GOALS AND POLICIES

The CSWMP provides clear guidance on how the City intends to manage the quality and quantity of its stormwater runoff. It meets the current requirements of the watershed and other regulatory agencies that have water management jurisdiction over the City and provides a good chance of meeting the forthcoming revised Watershed rules. Those rules, when complete, are anticipated to include more stringent design standards/guidelines, watershed and sub-watershed goals and policies, in addition to review procedures and submittal requirements. The CSWMP is also responsive to the goals and policies articulated in the City's community-wide comprehensive plan.

### **Regulatory Agencies**

A number of regulatory agencies have jurisdiction over the water resources in Cold Spring, including:

- **Sauk River Watershed District:** Regulates and manages and protects the water resources (e.g. lakes, rivers, streams) that are within the watershed's jurisdictional boundaries including the City and surrounding study area.
- **Stearns County:** Regulates wetlands under the Wetland Conservation Act on the City's behalf through its delegation as the Local Government Unit (LGU) authority.
- **Minnesota Department of Natural Resources:** Regulates Protected Waters and Wetlands of the state and issues permits for specified activities.
- **Minnesota Board of Water and Soil Resources:** Oversees administration of the Minnesota Wetland Conservation Act.
- **Minnesota Pollution Control Agency:** Addresses water quality protection through its permitting authority under Section 401 of the Clean Water Act.
- **U.S. Army Corps of Engineers:** Regulates waters of the U.S. (including certain wetlands) under Section 404 of the Clean Water Act.



## CSWMP Goals

The CSWMP goals are a reflection of the City's desire to reach and sustain a high quality of life for the City's residents. The goals are:

1. To provide flood protection for all residents and structures as well as protect the integrity of conveyance channels and stormwater detention areas.
2. To promote the reduction of phosphorus and total suspended solids as well as other pollutants to water bodies by regulation, municipal management activities, and public education.
3. To prevent hazardous waste/material from entering the stormwater drainage system.
4. To involve the general public, City staff, and the business community in water quality management efforts.
5. To identify and protect wetland resources in order to maintain or improve their function and value.

## p IMPLEMENTATION PLAN

The CSWMP provides a plan for managing the City's surface water system, addressing problem areas, and protecting key water resources in the City. The real measure of success of the CSWMP will be in its implementation. Implementation of the CSWMP covers a number of aspects, including:

- Administering regulations and programs
- Managing surface water as redevelopment and new development occur
- Implementing a public education program regarding stormwater management
- Operating and maintaining the surface water system
- Constructing prioritized capital improvements
- Financing projects and programs
- Providing a process for future amendments to the CSWMP



## Regulatory Responsibilities

The City shares regulatory responsibility with various water management organizations. The table below shows the breakdown of primary responsibilities for administration of specific regulations.

### Regulatory Responsibilities for Stormwater Management and Related Issues in Cold Spring

Regulation	Primary Responsibility		
	Stearns County	SRWD	City
Land Use (zoning, subdivision approval, etc.)			X
Grading			X
Wetland Conservation Act	X		
Stormwater rate control		X	X
Stormwater quality treatment		X	X
Fertilizer regulations			X
Erosion and sediment control			X
Illegal discharges to storm drainage system			X
Shoreland Management Zoning	X		X

## Requirements for New Development and Redevelopment

Greater impervious coverage associated with new development or redevelopment activity places additional burdens on the storm drainage system by increasing the rate and volume of runoff. This change in hydrology, along with more intense land use activities that generate certain types of contaminants, increases the amounts of pollutants exported from a development site.

Expanded storm drainage systems are needed to serve the developed area, but these systems also provide an efficient conduit to deliver more runoff and higher pollutant loads to downstream receiving waters. Unless these impacts are reduced, the risk of property damage will be unacceptably high and downstream receiving waters will be degraded over time as a result of development.

The City of Cold Spring recognizes its responsibility to protect property and priority water resources from adverse impacts due to increases in land use intensity caused by development and redevelopment activities. To minimize the adverse impacts of development on stormwater quantity and quality, development and redevelopment activity shall be subject to storm water requirements herein.



## Public Education

Education plays an important role in implementing the stormwater management program presented in the CSWMP. Target audiences for the education program are:

- City staff
- City residents
- Development community

**City staff** have a wide range of responsibilities in implementing the CSWMP, including planning, managing, and maintaining the surface water system; regulating development and redevelopment; coordinating education efforts; and cooperating with other regulatory agencies. Accordingly, City staff members at a number of levels are trained to have a basic understanding of the objectives of the CSWMP.

In order to obtain the necessary political and economic support for successful CSWMP implementation, it is vital to inform **City residents** about basic stormwater management and water quality concepts (e.g. best management practices, individual rain gardens, car washing practices, etc.), policies and recommendations in the CSWMP, and the progress of stormwater management efforts.

This information is presented to the public through the City newsletter, press releases to local papers, and at public meetings as appropriate. Periodic updates on the progress of CSWMP implementation and information on specific improvement projects are also provided to the public.

Because Cold Spring is a developing City, the CSWMP's primary impact is on development activities. The CSWMP is designed to provide the official policy direction that City staff and the City Council desire to guide stormwater mitigation for both new and redevelopment projects. The information about those requirements is disseminated to **developers** and their consulting engineers as early as possible in the development review process. In this way, developers know what is expected of them and can consider the requirements in their initial assessments of the site as well as incorporate the necessary BMPs in any subsequent designs.

City staff, in addition to pertinent regulatory partners, should meet with the developer as early as possible in the review process to define expectations for submittals, clarify regulatory compliance issues, and provide additional detailed guidance.



## Operation and Maintenance

General maintenance and management of the City's facilities help ensure proper performance and reduce the need for major repairs. Periodic inspections are performed to identify possible problems in and around the facilities. Maintenance and management cover:

- Stormwater basins
- Storm sewers and open channels
- Storm sewer inlet structures
- Illicit dumping and discharges
- De-icing practices
- Street sweeping

## Capital Improvement Program

A hydrologic computer model, HydroCAD, of the City's surface water system was developed over the study area as part of the CSWMP. A new water surface profile and floodplain were established for Brewery Creek using the HEC-RAS computer model. System costs and trunk assessments were established based on the ultimate stormwater system.

## NPDES Phase II Storm Water Permit

As part of the Clean Water Act, the U.S. Environmental Protection Agency is requiring municipalities to obtain permits to discharge stormwater. In Minnesota, the MPCA is administering these NPDES (national pollutant discharge elimination system) permits. Larger cities were required to obtain permits under Phase I of the program in the early 1990s. Select smaller cities are now being required to obtain permits under Phase II of the program. Cold Spring is not currently obligated to obtain a permit, but may be required to do so in the future. This plan puts the City well on its way to meeting the requirements of such a permit.

## p CSWMP CONTENTS

The Cold Spring Comprehensive Surface Water Management Plan is organized into six sections, as follows:

**Section 1. Introduction** – provides background information on surface water management issues facing the City, along with the purpose, scope, and organization of the CSWMP.



**Section 2. Physical Environment** – presents information on the topography, soils, land use, and key water resources in the City.

**Section 3. Goals and Policies** – discusses the framework for surface water management in the City and presents the CSWMP goals and policies that guide that management. Also presented are the roles of other organizations with surface water management jurisdiction in the City, including the watershed organizations and state agencies.

**Section 4. Hydrologic System** – discusses the hydrologic modeling of the City’s stormwater system and also presents a brief overview of water quality and quantity issues in each watershed portion within the City.

**Section 5. Implementation Plan** – presents Cold Spring’s specific approach to managing surface water in the City. The implementation plan outlines:

- Regulatory administrative responsibilities
- Requirements for new development and redevelopment
- Education
- Operation and maintenance
- The capital improvement program
- Financing
- Plan amendment procedures
- Annual reporting

**Section 6. Summary and Recommendations** – presents a summary of key issues and recommendations for implementation of the CSWMP.

