COON CREEK
WATERSHED DISTRICT

2024-2033

Comprehensive Watershed Management Plan

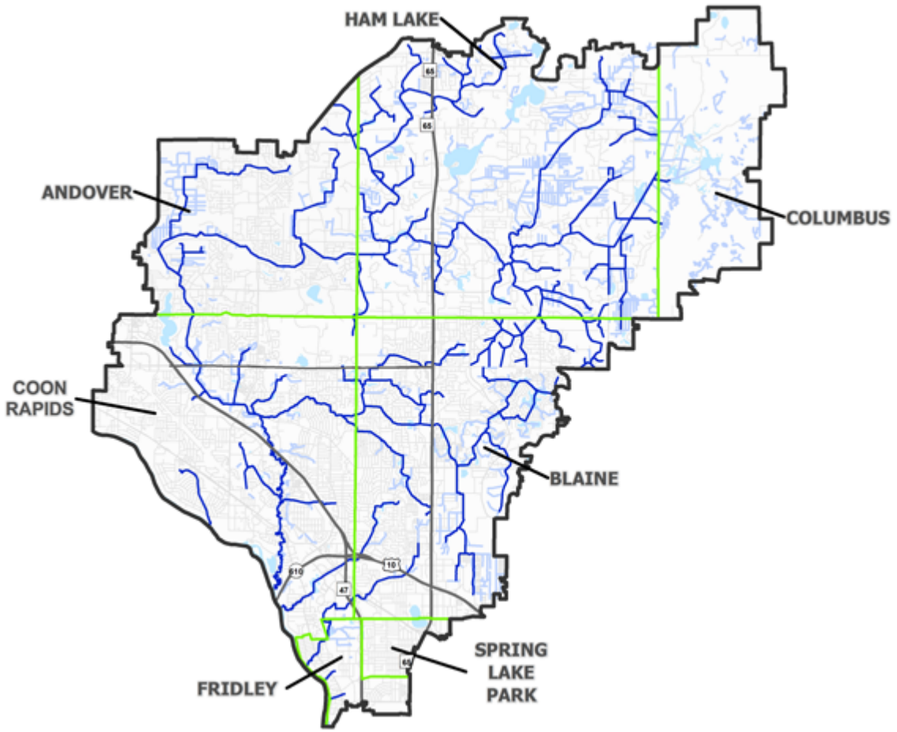
Adopted November 12, 2024
Amendments Adopted - December 8, 2025

Cover Image: Bridge at Coon Rapids Dam Regional Park
Icons: Freepik.com

COON CREEK
WATERSHED DISTRICT

The mission of the Coon Creek Watershed District is to manage surface and groundwater systems and contributing land to provide for and balance the competing uses of development, drainage, flood prevention, and the protection and restoration of water quality and habitat for the benefit of our communities now and in the future.

(763) 755-0975 | info@cooncreek.org | www.cooncreekwd.org



Reading Guide

Unsure where to start? CCWD has provided a variety of documents to meet the needs and interest areas of plan readers and reviwers.

More Simplified

More Detailed

- **Plan At A Glance**
  One page overview
- **Executive Summary**
  Twenty page summary
- **Plain Language Audit Summary (Appendix G)**
  Reference guide to § 8410 requirements
- **Full Plan**

The Plan At A Glance

The Coon Creek Watershed District (CCWD) was established in 1959 by citizen petition. The CCWD encompasses 107 square miles within central Anoka County and includes the cities of Andover, Blaine, Columbus, Coon Rapids, Fridley, Ham Lake, Spring Lake Park.

The 2024-2033 Comprehensive Watershed Management Plan (Plan) is designed to address water management challenges in the watershed. Authorized by Minnesota Statute 103B.231 and Rule 8410, the Plan intends to serve as the CCWD's strategic management plan and the platform for operational planning.

The Plan identifies priority issues through public and agency input. These priority issues include water quality impairments and groundwater and surface water interactions. The priority issue of groundwater and surface water interaction specifically involves the quality and quantity of shallow groundwater. The Plan also outlines the need for significant pollutant load (TMDLs) reductions by 2045 to address water quality impairments and issues such as shallow groundwater chloride pollution and potentially declining groundwater.

The Plan sets watershed-wide and resource-specific goals to address priority issues. The watershed-wide goals include fostering a watershed with moderate geomorphic, hydrologic, and biotic integrity relative to its natural potential condition, improving the stability of the drainage network, and fostering a watershed that exhibits physical, chemical, and biological conditions that suggest soil, riparian, and aquatic systems, while still at risk, show signs of marginal recovery in supporting beneficial uses. The resource-specific goals are discussed in more detail in the Plan.

Anticipating future trends, the CCWD expects increased conflicts over water management, resource scarcity, technological advancements in water monitoring, and external challenges like pandemics and political constraints. These trends underscore the importance of a strategic approach to managing water resources, including the protection of public health and ecological functions.

This Plan emphasizes a Multi-Domain Management strategic approach which enables disciplined decision-making by framing risk and continually assessing progress toward legislative goals. This approach focuses on merging the capabilities of collaborators, sharing a common understanding of the water management problems, and implementing programs that transform conflict, seek collaboration and unity of effort, maintain legitimacy, and build the capacity and capabilities to pursue those shared goals.

Sustainment and administration of the plan will require a substantial investment over the next 10 years, with revenue sources including grants, intergovernmental sources, and the CCWD tax levy. Collaboration with city engineers, public works directors, and various organizations is key to the Plan's implementation, alongside annual assessments to adjust priorities and methods. The CCWD faces significant risks and will seek to extend the EPA's 2045 deadline to meet TMDL pollutant reduction goals, increase funding levels, and reclassify impaired waters based on use attainability principles.

Table of Contents

List of Figures

List of Tables

Executive Summary

Authorization

The Comprehensive Plan is authorized and directed by Minnesota Statute 103B.231 and Minnesota Rule 8410. This statute applies only to the Seven-County Metropolitan Area.

The Coon Creek Watershed District (CCWD) is a special purpose unit of government authorized Minnesota Statute 103D. The CCWD's purpose is to implement the policies and goals of the State of Minnesota. The Water policy and goals of the Watershed District are directed by five state statutes and one Federal statute, the Clean Water Act). CCWD activities were also directed and limited by an addition 60 - 70 statutes, rules, manuals and guidance.

These legislative requirements are distilled and reflected in the CCWD's mission, which is to manage surface and groundwater systems and contributing land to provide for and balance the competing uses of development, drainage, flood prevention, and the protection and restoration of water quality and habitat for the benefit of our communities now and in the future.

This Comprehensive Plan intends to serve as the CCWD's strategic management plan and the platform for operational planning.

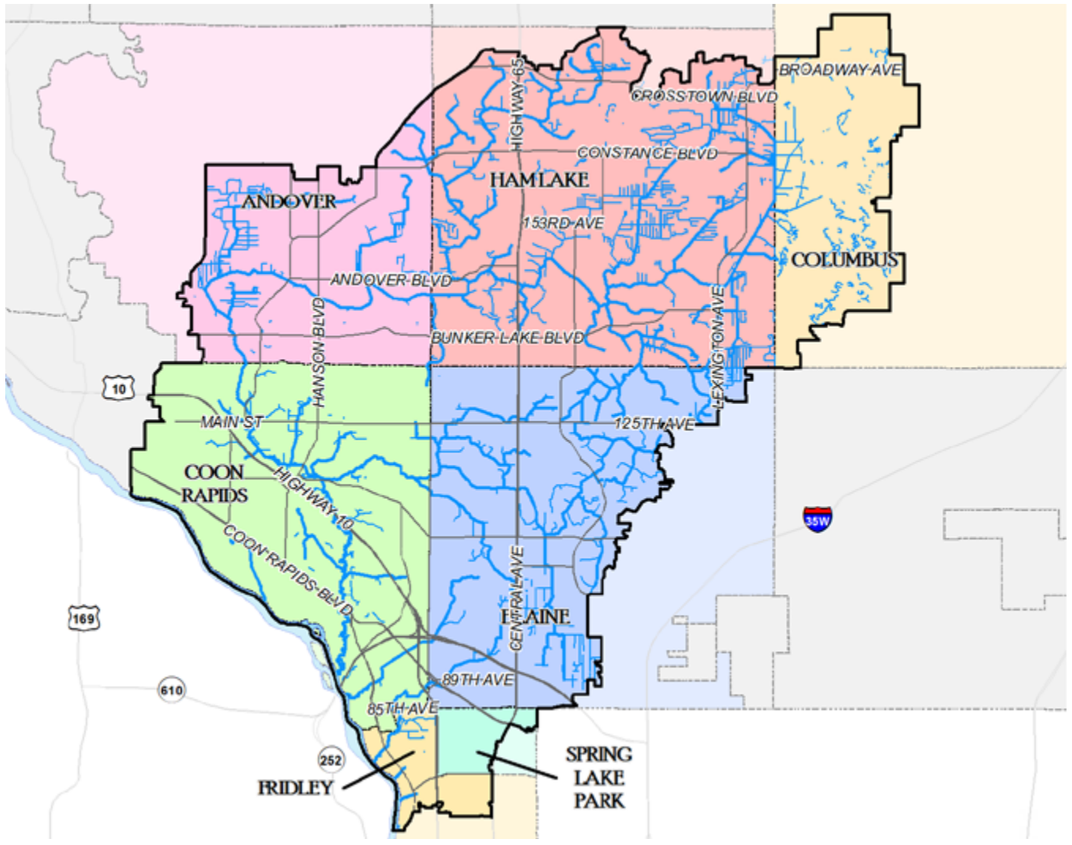


Figure I. Coon Creek Watershed District map

Background

The CCWD was established in 1959 by public petition in response to severe flooding in the 1950's. The primary focus of the CCWD from 1959 to 2005 was to balance the provision of established drainage rights in the upper portion of the watershed and flood impacts in the more developed lower portion of the watershed without impacting wetlands or water quality. The CCWD received its first water quality impairments in 2006 and now all four major streams in the CCWD (Coon Creek, Sand Creek, Pleasure Creek, and Springbrook Creek) are impaired for aquatic life and recreation. Three lakes in the CCWD are also impaired: Crooked Lake and Ham Lake for aquatic consumption, and Laddie Lake for aquatic life. The CCWD has four regional TMDLs for the major impaired streams in the CCWD to address their impairments that require pollutant load reductions.

The watershed is approximately 107 square miles and is located completely within Anoka County. The cities that are located partially or completely in the CCWD include Andover, Blaine, Columbus, Coon Rapids, Fridley, Ham Lake, and Spring Lake Park. The Coon Creek watershed is part of the Twin Cities portion of the Upper Mississippi River Watershed (UMRW). The UMRW includes the headwaters of the Mississippi River and its outlet is at its confluence with the Minnesota River. The Coon Creek watershed outlets to the Mississippi River approximately 21 miles upstream from where those rivers join.

The Coon Creek Watershed is included in a portion of the Anoka Sand Plain known as the Anoka Lake Plain. The Anoka Lake Plain is a near level to gently rolling lake plain formed by meltwater from the Grantsburg Sub-lobe. Some areas of the lake plain have been reworked by wind to form dunes. The soils are primarily fine sands with organic and loamy and hydric soils in depressions. The regional water table is very shallow, usually less than 17 feet below the surface with much of it exposed in the form of wetlands, lakes, and streams. Water management in the sand plain is of interest because (1) surface water and groundwater are essentially the same system expressed as base flows on surface waters and on the behavior of the hyporheic zone and hypolentic zones of surficial groundwater and (2) any beneficial use of surface or surficial groundwater is conjunctive involving combined or coordinated usage of surface and groundwater to meet the demand for beneficial use of the water resource.

Situational Assessment

As a watershed district and drainage authority in an area experiencing rapid urban sprawl, the CCWD must balance a multitude of demands and responsibilities. The CCWD must manage a drainage system that maintains established drainage rights, while also attempting to reduce potential flooding and improve or protect water quality and wetlands of those surface waters in the CCWD. On top of these responsibilities, the CCWD regulates development and land use change to protect water quality and biotic integrity and function. All of these demands and responsibilities aim to protect public health and safety and promote beneficial uses of the water resources and water-dependent resources in the CCWD. The CCWD manages these demands and responsibilities while facing aging infrastructure, labor shortages, and limited financial resources.

The watershed is currently in a fair to poor ecological condition on an absolute scale compared to a pristine, undeveloped watershed. But considering the urbanized environment and lack of water resource management before 1959, the watershed is in fair condition and continues to provide select beneficial uses to the public.

Priority Issues

The priority issues for this Comprehensive Plan were identified using input from the public and local and state agencies. The priority issues this Comprehensive Plan aims to address are water quality impairments and groundwater and surface water interactions.

- Water Quality Impairments: The CCWD manages eight streams and three lakes that are impaired for water quality. The specific composition and contributors or stressors contributing to the impairments are shown in Table 1.

Table I. Water quality impairments in the District.

Waterbody (AUID)	Year Listed or proposed	Impaired Beneficial Use	Impairment	Aquatic Life Stressor(s)
Coon Cr (07010206-530)	2006	Aquatic Life	Macroinvertebrates	TSS, TP, Poor habitat, Altered Hydrology, Low Dissolved Oxygen
	2022	Aquatic Life	Fish	
	2024	Aquatic Life	Total Suspd Solids	
	2024	Aquatic Life	Dissolved Oxygen	
	2014	Aquatic Recreation	E. coli	
Ditch 11 (-756)	2022	Aquatic Life	Macroinvertebrates	TSS, TP, Poor habitat, Altered Hydrology, Low Dissolved Oxygen
	2024	Aquatic Life	Dissolved Oxygen	
	2024	Aquatic Recreation	E. coli	
Ditch 58 (-636)	2024	Aquatic Recreation	E. coli	
Sand Cr (07010206-558)	2006	Aquatic Life	Macroinvertebrates	TSS, TP, Poor habitat, Altered Hydrology
	2024	Aquatic Life	Fish	
	2016	Aquatic Recreation	E. coli	
Ditch 41-4 (-765)	2024	Aquatic Recreation	E. coli	
Pleasure Cr (07010206-594)	2006	Aquatic Life	Macroinvertebrates	TSS, TP, Poor habitat, Chlorides
	2024	Aquatic Life	Chlorides	
	2014	Aquatic Recreation	E. coli	
Springbrook Cr (07010206-557)	2006	Aquatic Life	Macroinvertebrates	TP, Poor habitat, Altered Hydrology, Chlorides
	2024	Aquatic Life	Chlorides	
	2014	Aquatic Recreation	E. coli	
Crooked Lake (02-0084-00)	2008	Aquatic Consumption	Mercury	
Ham Lake (02-0053-00)	2008	Aquatic Consumption	Mercury	
Laddie Lake (02-0072-00)	2024	Aquatic Life	Chlorides	Chlorides
Mississippi River (07010206-805)	1998	Aquatic Consumption	Mercury	
	2002	Aquatic Consumption	PCBs	
	2006	Aquatic Recreation	Fecal coliform	
	2016	Aquatic Life	Nutrients	TP

The CCWD has four regional TMDL studies that require pollutant load reductions for Coon Creek, Sand Creek, Pleasure Creek, and Springbrook Creek. The TMDLs have a 2045 compliance deadline set by the EPA to meet water quality standards and a 2050 deadline set by the state (MS 114D.20 subd. 2).

Current forecasts conducted by the CCWD estimate it may cost more than $100 million to address the current TMDL pollutant reduction requirements by 2045.

- Groundwater and surface water interactions: The surficial aquifer is the principal source of water for most lakes and wetlands in the watershed as well as base flows to the flowages. Two interrelated issues have been traced to the surficial aquifer:
    - » Water Quantity Concern: Groundwater levels appear to be falling based on anecdotal reports of an increasing nu mber of seasonally dry channels, and the loss of wetlands. Certainly, compounded by the drought, the concerns appear to be exasperated and compounded by changes in precipitation, amounts and patterns and the subsurface drainage effect of the Mississippi River. The CCWD believes that there is a high probability that wetland loss is due to changes in the surficial aquifer from groundwater and surface water interactions
    - » Water Quality Concern: The CCWD has detected chloride levels during baseflow conditions that are mostly groundwater-fed exceed state standards, and are contributing to the pollution of surface waters. Chloride levels are peaking in waters in the southern portion of the CCWD in the summer and fall, which indicates that the groundwater is polluted with chloride and is contributing significantly to surface water impairments. The concern is that due to the high soil transmissivity of the sandy soil, the groundwater in the watershed may be polluted with other stressor pollutants that are contributing to surface water impairments. If this is the case, it would make achieving TMDL water quality standards even more challenging.

The surficial groundwater in the CCWD, or the water table, is generally at the surface of the land or within 5 to 10 feet of the surface. It is part of an unconfined aquifer whose boundaries extend beyond the CCWD. The aquifer is highly dynamic and fluctuates constantly both vertically and horizontally. In most areas of the CCWD, it is about 50 feet deep. This issue is composed of the very surface of the surficial groundwater table which fluctuates vertically five to 10 feet per year. This vertical fluctuation is due to multiple factors including recharge, precipitation, evapotranspiration, pumping, dewatering, and potentially others (Jiang, 2017) . It also moves horizontally toward the Mississippi River at a rate of 3 to 12.5 feet per day. It is subject to dewatering for construction and appropriation for irrigation and domestic water use.

Current and Expected Trends

The current and expected trends the CCWD is anticipating are categorized into the following areas: hydro-political, economic, technological, external, and management trends.

Table II. Current and expected trends.

Hydro-Political Trends	• Increase in inter-jurisdictional conflict, Institutional & economic fragility • Attempts to weaken water management efforts &/or reverse progress
Economic Trends	• Increased resource scarcity • Increased conflict over resources and marginal lands
Technological Trends	• Rapid advances in water monitoring and management technology • High Tech won't ensure success or clarify problems – Increased fog
External Trends	• Pandemics • Increased volatility in precipitation • Labor, expertise shortages • Change and constrain on state & local politics
Management Trends	• **Operating environment** characterized by contested norms and disorder • Increase in threats to public health & safety • Increase in gray-zone issues and protracted problems in contested environments

Key Terminology: Operating Environment

The operating environment consists of the many physical, social, political, and economic trends that influence the course and conduct of water management activities. Primarily including social, management, and hydrologic factors.

Plan Goals and Objectives

The goals and objectives of this Comprehensive Plan are intended to address the priority issues currently facing the CCWD. There are two types of goals established: watershed-wide goals and resource goals. Watershed-wide goals are overarching end-state outcomes for the entire watershed that are broad and intended to be tracked over time on a 5 to 10-year frequency. Resource goals are general, long-term desired outcomes for a given resource in the watershed that aims to achieve the CCWD Mission. Each resource goal has objectives that are specific, measurable actions to be taken to achieve a given resource goal that are described later in this Comprehensive Plan.

Watershed-Wide Goals

- Foster a watershed with moderate geomorphic, hydrologic, and biotic integrity relative to its natural potential condition.
- Improve the stability of the drainage network in the watershed.
- Foster a watershed that exhibits physical, chemical, and biological conditions that suggest that soil, riparian, and aquatic systems, while still at risk, exhibit signs of being marginally recovered in supporting beneficial uses.

Resource Goals

- Groundwater: To cooperatively manage surficial groundwater underlying the Coon Creek Watershed and promote long-term maintenance or restoration of groundwater-dependent ecosystems.
- Public Drainage: To provide sustainable drainage in a fiscally responsible manner for administration, protection, utilization, and enjoyment of the waters and related resources of the watershed consistent with the Comprehensive Watershed Management Plan.
- Water Quality: To protect and improve the physical, chemical, and biological quality of the water resource consistent with State and Federal water quality standards.
- Water Quantity: To restore and preserve desirable watershed conditions that will prevent or minimize flooding and minimum flows.
- Wetlands: To pursue the no net loss of the quantity, quality, and biological integrity of the CCWD wetlands.

Strategic Plan

The central strategic water management problem this Comprehensive Plan will address is how will the District sufficiently fund and staff the needed water management efforts to achieve the 2045 TMDL compliance deadline while effectively dealing with current problems and management responsibilities?

To meet the needs for water management over the next decade the CCWD must be able to adapt to changing conditions, manage antagonism and articulate and quantify public costs, address problems and restore capacity, pursue rehabilitation of resources, and enforce beneficial outcomes.

Approach – Multi-Domain Management

The CCWD will utilize an approach for managing the watershed over the next ten years called Multi-Domain Management (MDM). MDM seeks to solve the central water management problem within the framework of the Metropolitan Water Management Act by enabling disciplined decision-making by **framing risk** and continually assessing progress toward legislative goals.

Key Terminology: Risk Framing

The set of assumptions, constraints, risk tolerances, and priorities/trade-offs that shape an organization's approach for managing risk.

The CCWD's intent is to address the central water management problem, restore and sustain the resource and pursue a sustainable outcome within the framework of the existing laws. To accomplish this will require the CCWD and its collaborators to:

- Conduct the full spectrum of **shaping**, repair, restoration, protection, and civil-support projects and activities to achieve objectives, resolve problems, and protect and consolidate improvements.
- Merge the capabilities of the organizations involved through the Technical Advisory Committee, subwatershed planning and collaborative implementation of capital, maintenance, regulatory and public information, and engagement activities.
- Share a common understanding of the central water management problem as it evolves. We will accomplish this through regular reviews with collaborators.
- Adhere to the central idea of strategic discipline.
- Implement programs that transform conflict, seek collaboration and unity of effort, maintain legitimacy, and build the capacity and capabilities to pursue those shared goals.

Key Terminology: Shaping

Shaping is the construction of a more favorable operating environment by influencing characteristics of water management agencies, altering the relationships between them, or managing the behavior of collaborators and cooperators.

To serve the public and sustain the capacity and capability of the resource will also involve the following:

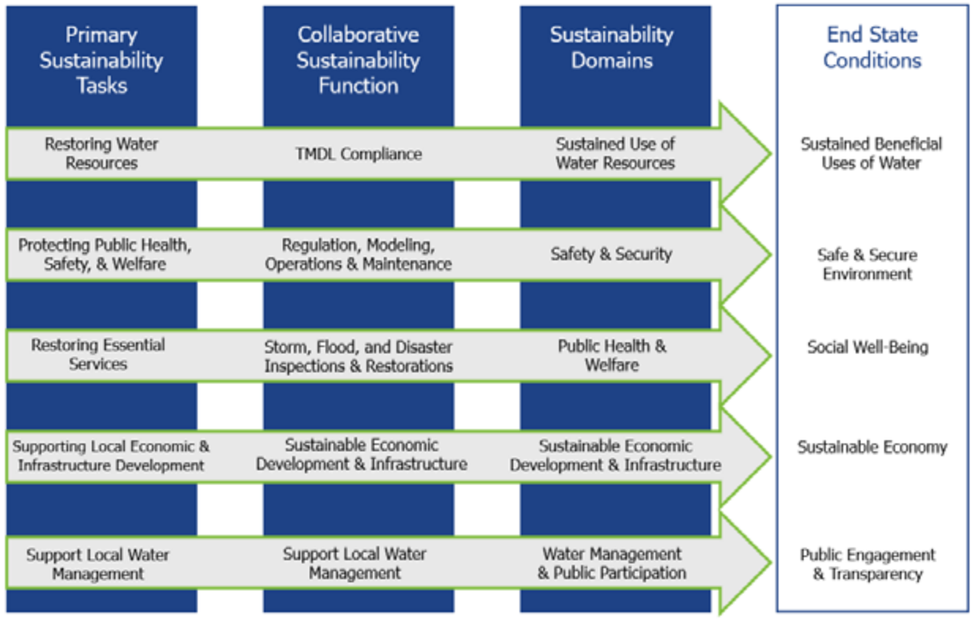


Figure II. Sustainment

Success in 2033 means:

- A significant reduction in portions of the watershed exhibiting signs of biogeochemical instability.
- A reduction in the risk of additional impairments
- An increase in the level of program and activity integration between and among collaborators, particularly MS4s

These conditions will be assessed qualitatively but supported through quantitative measures involving approved monitoring and condition measures such as loadings, IBIs, and other measures.

Implementation of Essential Tasks

The CCWD and its collaborators will address the strategic problem and pursue the watershed-wide and resource goals through Programs. The Programs are organized to reflect essential tasks that must take place.

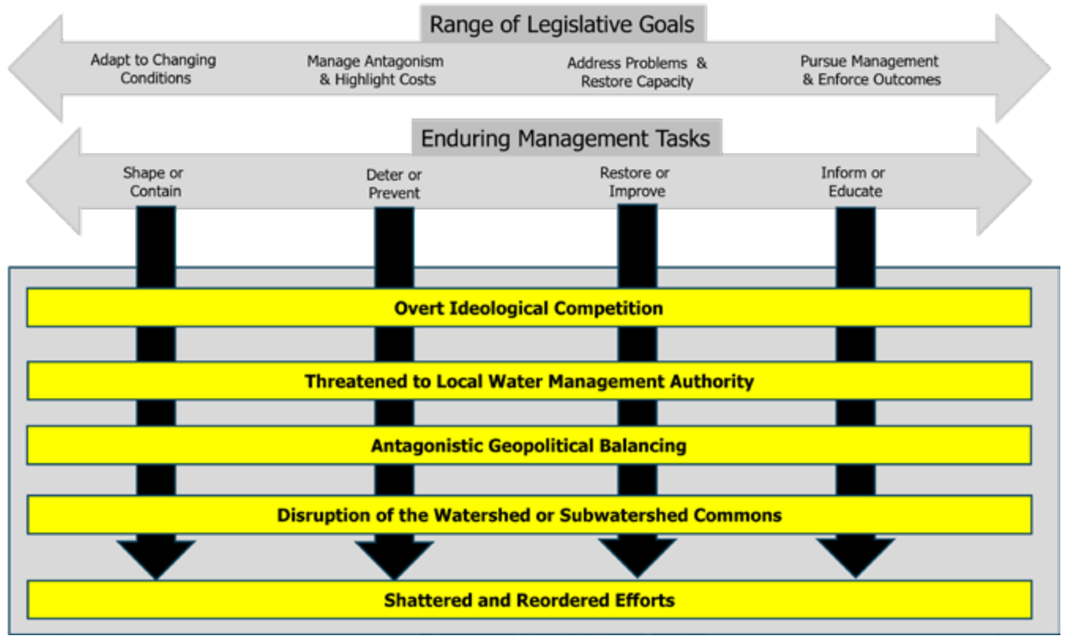


Figure III. Legislative Goals and Essential Tasks

Tasks and activities conducted by the CCWD and its collaborators under this Comprehensive Plan can be categorized into four areas: shaping, restoring, protecting, and stabilizing. A description of these areas is provided below.

- Shaping: Shaping involves influencing the public and partners to establish a more favorable environment through influence of other organizations, altering the relationships between them, or managing the behavior of partners.
- Restoring: Activities designed to restore and improve conditions needed for critical events to be successful.
- Protecting: Activities to protect the public health, safety and welfare and the hydrologic and ecological functioning that exists or has been restored that is vital to the production and provision of beneficial uses.
- Stabilizing: Activities to identify, target, and mitigate the root causes of risk and to set the conditions for sustained use of the water resource by building the capacity and capability of local government and non-government organizations involved in water management.

Data Collection and Intelligence

The goal of the CCWD data collection and **intelligence** efforts is to collect, analyze, and deliver information and intelligence to water managers and leaders so they can make sound decisions to manage the water resources efficiently and effectively within the CCWD.

The intent is to provide objective and accurate projections that guide the water management programs in how best to budget, equip and train staffs, and warn of potential crises. Inspection, monitoring and data collection and analysis support the employment of money, material and know-how across a broad continuum of operations, from disaster prevention and relief, to shaping, protection, and improvement projects and activities.

Key Terminology: Intelligence

Intelligence is the act of using information collection and analysis to provide guidance and direction to assist commanders in their decisions.

Capital Projects

Capital projects seek to address a problem or issue or achieve some larger strategic, operational, or tactical goal through the application of money, authority, and/or staff. Their intent to accomplish this is in support of the sustained production or provision of the beneficial uses of water within the watershed. Improvement projects and activities are conducted to restore, improve, or enhance the physical, chemical, or biological function of a water resource or to address or resolve catalysts, stressors, or factors contributing to other, often larger problems.

To do this the CCWD seeks to combine the condition and tendencies of the land and water resources of an area with the monetary, authority, and staff resources needed to achieve an objective.

The capital project plan (CIP) schedules over $85 million in capital investments over the next ten years to make reasonable headway toward achieving federal and state water quality goals. Priority investments are targeted for water quality impairments and flood prevention and minimization.

Seventy percent (70%) of investments are targeted toward water quality. These funds will go to projects involving the restorations, rehabilitations, enhancements, and improvements needed to achieve the 2045 deadline for load reductions under the water quality impairments and approved TMDLs. All capital improvement initiatives (projects, practices, studies, and plans) will be prioritized, targeted, and measurable.

Page amended December 8, 2025

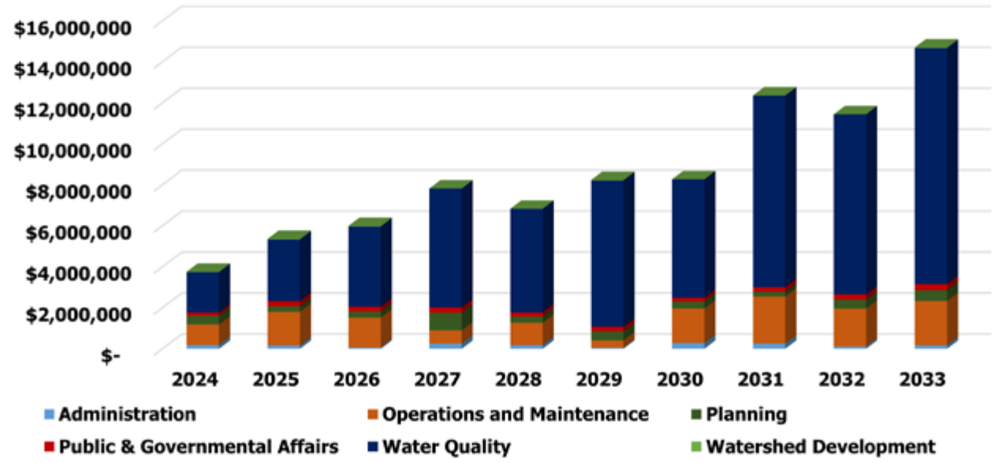


Figure IV. CIP expenditures by program from 2024-2033

Manage Growth and Protect the Resource

Managing growth (development) to prevent actions or circumstances and/or protecting the public health, safety and welfare and the productive, self-renewing relations and critical landscape and hydrologic functions is accomplished largely through the CCWD rule and the state wetland and storm water rules administered by the CCWD. The intent is to protect against natural or man-made changes to the landscape or water resources that are either unmitigated or reduce or prevent biogeochemical functioning.

The purpose of this essential task is to protect the public health and safety as well as the functional ability of the watershed to produce and provide beneficial uses. To do this requires the CCWD to work with landowners and developers to avoidance, minimize and mitigate the effects of land use changes on the structure and function of land and water resources through performance-based regulation of sensitive lands and circumstances affecting ground water, public drainage, water quality, water quantity and wetlands.

Continually Involve and Engage Public and Partners

Collaboration and intergovernmental coordination are vital to achieve the Federal and state goals. Our goal is to maximize resources, prevent wasted effort, and foster trust in local water management institutions. We intend to proceed in a collaborative manner focusing on common understanding and interests as much as possible. However, a few requirements will be placed on all public and private water management organizations to:

- Develop and implement Local Water Management strategies that are consistent with the Comprehensive Watershed Management Plan.
- Collaborate in developing subwatershed plans that address flood mitigation and TMDL achievement.
- Initiate and maintain intergovernmental/interagency coordination through membership in the Watershed District's Citizen Advisory Committee or Technical Advisory Committee.
- Provide administrative and operations support to all local water management efforts that pursue the water management goals presented in the Comprehensive Watershed Management Plan.

Inform and Educate

The goal of information operations is to collect field and program information and disseminate educational and other material in pursuit of improvements in water resources. This task aims to develop and convey messages and devise actions to influence select groups and promote themes to change those groups' attitudes and behaviors. civilian interference, minimize unintended consequences, and increase the population's support for operations. Target audiences of the CCWD and all water managers are:

- Municipal Separate Storm Water System (MS4) managers
- Public and Private Water Management organizations
- Citizens
- Elected officials.
- Select state agency and program managers.

Operations and Maintenance

This essential task intends to conduct coordinated water management projects and activities in response to developing situations. It also monitors all of the natural and hard infrastructure in the CCWD to evaluate their condition and maintenance needs and maintains the infrastructure that the CCWD is responsible for.

Restoration of Impaired Waters

This essential task intends to continually assess water quality and provide insights into the implications that guide water management in how best to "organize, train, and equip" water management efforts. This task will also address and support the allocation and use of public funds, authority and staffing across the broad continuum of operations. Lastly, this task will implement CCWD water restoration and protection strategies and TMDL compliance activities.

Subwatershed Planning

Subwatershed planning is a process used by the CCWD and its collaborators to identify specific goals, projects, and other implementation actions for a particular subwatershed in the CCWD. The CCWD is in the process of completing subwatershed plans for all 18 subwatersheds within the District. These plans model existing conditions, map pollutant-loading hot spots, identify areas of potential flooding, and identify and prioritize BMPs based on cost-effectiveness or other programs that will most cost-effectively address the priority issues and goals set for a particular subwatershed. Subwatershed plans are the primary vehicle the CCWD utilizes to identify capital projects to address water quality impairments and flooding issues. The schedule for subwatershed planning is located in the Capital Projects chapter of this Comprehensive Plan.

Resource Summary

There are five resources the CCWD manages that BWSR requires to be evaluated and goals be set in this Comprehensive Plan including groundwater, public drainage, water quality, water quantity, and wetlands. A brief description of the goal, current situation, and approach for these resources is provided below.

Groundwater

Goal	To cooperatively manage surficial groundwater underlying the Coon Creek Watershed and promote long-term maintenance or restoration of groundwater-dependent ecosystems.
Current Situation	It appears the surficial groundwater quality is adversely affecting surface waters.
Approach	• Establish shallow wells and monitor for 5 years to assess condition and trend • Assess data with stakeholders to determine value and intent of further intervention • Possibly revise CCWD Rules or withdraw wells and continue with legal obligations

Public Drainage

Goal	To provide sustainable drainage in a fiscally responsible manner for administration, protection, utilization, and enjoyment of the waters and related resources of the watershed
Current Situation	The CCWD manages 133 miles of "Public" drainage ditch built between 1888 and 1919. The system now serves multiple demands and is expected to provide and produce a variety services, some of which are conflicting.
Approach	Focus on maintaining drainage to those properties that are dependent on drainage for economic function.

Water Quality

Goal	To protect and improve the physical, chemical, and biological quality of the water resource consistent with State and Federal water quality standards.
Current Situation	The watershed includes 8 streams and 3 lakes whose water quality is "impaired". These impairments are to be rectified by 2045. The watershed also includes 15 Aquatic Invasive Species which the CCWD leads and/or assists in the prevention, detection and treatment or eradication.
Approach	• The CCWD will use an adaptive management approach where decision-making is based on the best available sound science and available resources. • Collect and share data on the condition and trends and their primary sources of pollutants and stressors. • Coordinate with local, regional, state, and federal partners and cooperators to plan for and fund water quality improvement initiatives. • Use monitoring results and best available data to identify, prioritize, and target applicable implementation strategies. • Implement resulting projects and practices that protect public health, safety, and welfare, address the root causes of impairments, and support use and enjoyment of water resources by the community. • Minimize public cost and impact by evaluating the feasibility and probability of success at meeting established targets prior to investments; identify areas where natural or other fixed constraints limit attainment of state and federal standards. • Regularly evaluate performance of water quality improvement projects and track progress towards achieving targets to inform course corrections when needed. • Find and advocate for creative solutions to balance water quality protection and restoration needs with economic growth and drainage demands.

Water Quantity

Goal	To closely monitor and model the CCWD's response and behavior to various hydrologic events, develop and regulate land use and infrastructure, and operate and maintain watershed components and functions that benefit the public health, safety, and welfare and reduce adverse effects.
Current Situation	Watershed hydrology is highly altered and combined with changes in precipitation occurrence the CCWD is experiencing both flooding and minimum flows. Both are required to be addressed and mitigated.
Approach	• Continually monitor precipitation and antecedent conditions relative to potential flood or low flows. • Monitor closely DNR issuances concerning minimum flows • Maintain and regularly update an accurate and reliable hydrology model for the watershed that assesses critical events, and 1% probability flows for risk management • Conduct channel maintenance to prevent property or crop damage from flood flows or low flows • Ensure adequate retention or detention to prevent the cumulative effects of flow volumes on drainage or flood occurrences. • Assist cities and citizens with information to prevent, minimize and mitigate damage from flood or low flows.

Wetlands

Goal	To pursue the no net loss of the quantity, quality, and biological integrity of the CCWD wetlands.
Current Situation	Over 30% of the watershed potentially qualifies as Jurisdictional Wetland. The District is the Local Governmental Unit, recognized by the State of Minnesota to administer the State Wetland Conservation Act.
Approach	• Conducting and supporting wetland delineation training. • Providing pre-delineation information such as water depth and precipitation. • Provide wetland hydrology monitoring data. • Conduct pre-application meetings for actions that may involve filling, draining or adversely impacting wetland. • Review wetland delineations with TEP. • Coordinate wetland delineations and reviews with cities, BWSR, DNR, and Corps of Engineers when warranted. • Review alternatives and sequencing analysis. • Require impact mitigation consistent with the law.

Sustainment & Administration

The **sustainment** or administration of this Comprehensive Plan will rely on three primary factors: funding, materials, and personnel. These factors will be facilitated, coordinated and addressed through an on-going annual planning, programming, budgeting, and execution process. This Comprehensive Plan and any subsequent amendments are administered by the Coon Creek Watershed District Board of Managers.

Key Terminology: Sustainment

Sustainment is the ongoing act of providing the resources required for maintaining and supporting operations of an organization.

Funding

To fund the Capital Improvement Plan (CIP) in this Comprehensive Plan, the CCWD will need in excess of $85 million from 2024-2033. Revenue to fund this 2024-2033 CIP is anticipated to come from the following sources: competitive grants, non-competitive grants, intergovernmental sources, and CCWD tax levy. Financing will be done according to the CCWD's financing policy and procedure, which is to seek to finance capital projects first through grant funding. Table III and Figure V show the currently planned revenue schedule for the 2024-2033 CIP.

Table III: Current planned revenue sources for 2024-2033 CIP

	CCWD Levy	Competitive Grants	Fund Balances	Inter-governmental	Non-competitive Grants	Special Assessment	Total
2024	$2,402,546	$500,000	$0	$708,408	$147,050	$0	$3,758,004
2025	$2,793,835	$500,000	$0	$1,649,743	$417,050	$0	$5,360,629
2026	$3,675,001	$500,000	$0	$1,675,508	$147,050	$0	$5,997,559
2027	$3,138,000	$1,000,000	$0	$3,459,000	$225,000	$0	$7,822,000
2028	$3,511,000	$0	$0	$3,092,000	$225,000	$0	$6,828,000
2029	$4,478,000	$1,000,000	$0	$2,532,000	$225,000	$0	$8,235,000
2030	$4,023,000	$0	$0	$4,018,000	$225,000	$0	$8,266,000
2031	$6,375,000	$1,000,000	$0	$4,758,000	$225,000	$0	$12,358,000
2032	$4,904,000	$0	$0	$6,312,000	$225,000	$0	$11,441,000
2033	$7,483,000	$1,000,000	$0	$5,993,000	$225,000	$0	$14,701,000
Total	$42,783,382	$5,500,000	$0	$34,197,659	$2,286,150	$0	$84,767,191

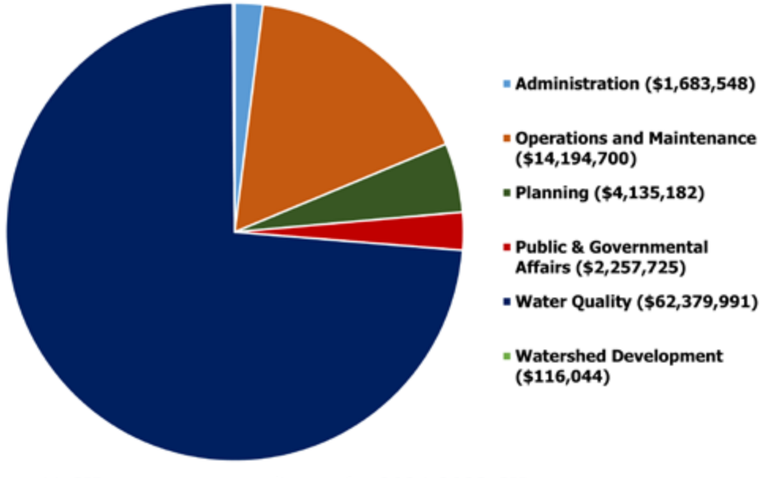


Figure V. CIP program expenditures for 2024-2033 CIP

A large portion of the funding for the 2024-2033 CIP comes from intergovernmental revenue. The projected revenue from this source is the estimated cost-sharing contributions from LGUs in the CCWD that are included in the categorical CCWD TMDL. Revenues were estimated based on the projected cost to achieve the interim CCWD TMDL 2033 pollutant reduction goals. Table VI shows the estimated revenue from intergovernmental sources.

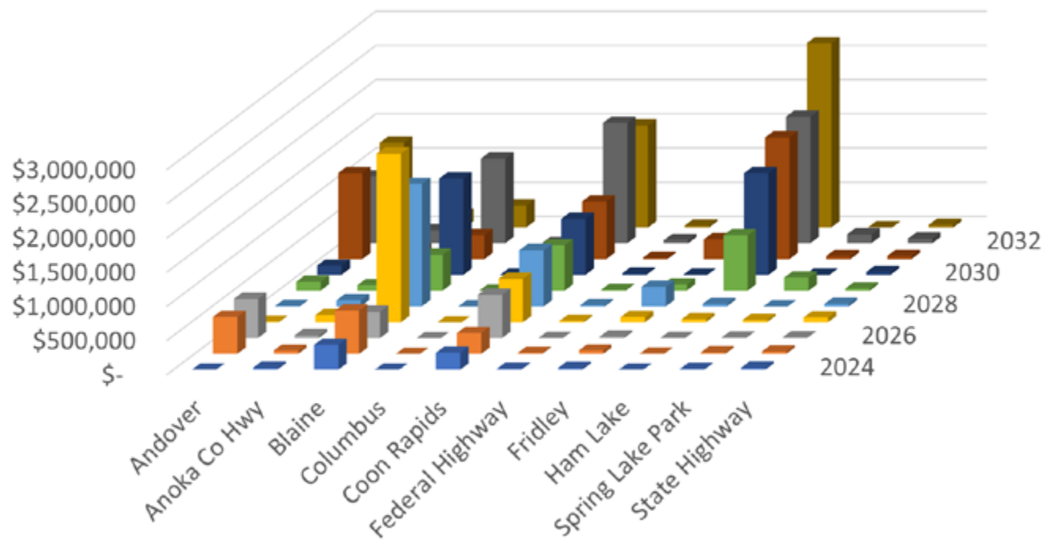


Figure VI. Estimated intergovernmental revenue source by year

Plan Amendments

This Comprehensive Plan will extend through the calendar year 2033, and further until such time as the CCWD Board adopts a new Comprehensive Plan to supersede it. Plan amendments will be needed if significant changes are required involving goals, policies, administrative procedures, funding, or if problems arise that are not addressed in the Plan. Plan amendments may be proposed by any agency, person, city, township, or county to the CCWD Board, but only the CCWD Board may initiate the amendment process. All plan amendments and minor changes will follow the procedures set forth in this section, or as required by MS 103B.231 and Rule 8410.0140 Subp. 5.

According to Rule 8410.0140, the following minor changes will not require a plan amendment:

- Formatting or reorganization of the plan.
- Revision of a procedure meant to streamline the administration of the plan.
- Clarification of existing plan goals or policies.
- Inclusion of additional data not requiring interpretation.
- Expansion of public process; or
- Adjustments to how an organization will carry out program activities within its discretion.

Control: Collaboration, Communication, Assessments and Risks

Collaboration

Implementation of this plan depends on the City Engineers, Public Works Directors, and staff of the MS4s involved in its development:

- Andover, City of
- Anoka Conservation District
- Anoka County Highways
- Blaine, City of
- Columbus, City of
- Coon Creek Watershed District
- Coon Rapids, City of
- Fridley, City of
- Ham Lake, City of
- Spring Lake Park, City of

It also depends on the vital input, feedback and involvement of:

- Citizens
- Citizen Advisory Committee, Coon Creek Watershed District
- Crooked Lake Area Association
- Ham Lake Lake Association

Communication

Formal communication and coordination will occur through a variety of plans, reports, and meetings. Plans and planning processes include Annual budgets, the Comprehensive Plan, Sub-watershed plans, Local water management plans and Special Area Management Plans such as Lake Management and other plans.

Reports include annual reports, TMDL reports, annual assessment and report, Annual budgets.

Meetings occurring regularly (monthly, quarterly & annually) include Citizen and Technical Advisory Committee meetings, subwatershed/TMDL-Flood mitigation work groups, preconstruction meetings, CCWD and city project and permit review committees and daily phone coordination.

Assessments

Assessment of progress towards Comprehensive Plan objects is conducted annually with the objectives of gaining further understanding of the resource problem and understanding the future requirements for resource management. The purpose of the annual assessment is to guide adjustments in priorities, objectives, and methods.

Risks

The watershed is at an inflection point and the doorstep of a very different and volatile decade. The achieve State and Federal goals will require all parties and stakeholders involved in water management. To succeed we must

- Adopt a multi scaled local to watershed wide integrated approach to shift risk across multiple timelines.
- Transfer risk away from water quality and ground water
- Become more tolerant of certain risks.

No party can address these problems, issues, and concerns alone. Risk management will depend on ongoing collective ability to adapt, innovate, remain strategically disciplined, and on our collective efforts. All of these will be accomplished or facilitated through:

- Ongoing monitoring and assessment of the operating environment and management situation
- The continued collaboration, communication and assessment actions identified.
- Multiscale and integrated planning, programming, budgeting and execution.

To reduce the risks the CCWD will seek to:

- Extend the TMDL deadline beyond 2045.
- Make considerably more money available to restore and replace natural and hard infrastructure.
- Differentiate or reclassify impaired water based on the principles of use attainability.

Plan Organization

The Comprehensive Plan is organized into two parts. Part 1 discusses the legislative authorization of the CCWD, the disclosures required by M.R. 8410, and a summary of past comprehensive plans the CCWD has implemented. Part 2 details the implementation plan of the Comprehensive Plan. This part of the Comprehensive Plan includes the following sections: (1) situational assessment, (2) strategic plan, (3) operational resource plans, (4) sustainment and administration, and (5) collaboration and controls.

The appendix of this Plan contains the Subwatershed Plans that have been completed by the CCWD, including (A) Oak Glen Creek, (B) Pleasure Creek, and (C) Springbrook Creek. Subwatershed Plans are operational and address the specific characteristics and conditions of a subwatershed, the levels of service expected from them, planned actions to ensure the assets are providing the expected level of service, and the specific financing and other support strategies to achieve the planned goals and objectives in a set period (Usually five years, reviewed annually). The Subwatershed Plans will be organized around the same five parts as the base plan. Subwatershed Plans provide a more detailed analysis of the projects and practices needed to restore impaired waters and reduce risk of flood damage and injury. The appendix also includes the current (D) CCWD Rules, the (E) public comments and responses from the notice of intent, (F) the CCWD public participation plan for the preparation of the Comprehensive Plan, and (G) Plain Language Audit Summary.

This report has been prepared on behalf of and with the assistance of the citizens of the CCWD. It is being accomplished with the involvement, support, and leadership of:

- Anoka County Highway Department
- City of Andover
- City of Blaine
- City of Coon Rapids
- City of Fridley
- City of Ham Lake
- City of Spring Lake Park
- Coon Creek Watershed District
- Anoka Conservation District
- Board of Water and Soil Resources
- Department of Natural Resources
- Metropolitan Council of the Twin Cities

Glossary

Aquifer: A geological formation or deposit that contains or transmits significant quantities of water (for example, to wells and springs). The term is usually restricted to those water-bearing geological units capable of yielding water sufficient to meet normal household needs.

Aquifer test: A field experiment, including a slug, packer, or pump test, designed to yield information on the in-situ hydraulic characteristics of an aquifer.

Artesian condition: Groundwater in an aquifer that is under pressure significantly greater than that of the atmosphere, due to the presence of an overlying confining unit, leading to a pressure sufficient to raise water in a well above the bottom of the overlying layer.

As-Built: A written report submitted by a licensed professional engineer or surveyor documenting that a water well or water pipeline has been constructed in compliance with the applicable engineering plans, special use authorization, and Federal, State, and local laws and regulations.

Confined aquifer: An aquifer that is bounded above and below by confining units.

Confining unit: A geological formation or deposit that does not contain or transmit significant quantities of water relative to the hydraulic characteristics of adjacent formations. A type of geological unit that is a confining unit in one area may be an aquifer in another.

Community water system: Defined under the Safe Drinking Water Act (SDWA) (33 U.S.C. § 300f(15)) as a public water system that serves 25 or more year-round residents or has 15 or more service connections used by year-round residents (40 CFR 141.2; FSM 7420.05).

Concerns: Are a diverse and dynamic combination of regular and irregular problems that are important. They tend to be difficult to define or quantify and serve as a source for worry or anxiety. They are often expressed in terms of unarticulated or unquantified risk and/or uncertainty. They lead an organization toward the right answer to the wrong problem and/or threaten the organization's ability to operate. Addressing concerns requires an accurate perception of the goal and operating environment; an ongoing comprehension of the situation (research, monitoring, inspections); a projection of the future (an adaptive plan) and the ability to adapt while still pursuing the goal.

Conjunctive use: Combined or coordinated usage of surface and groundwater to meet water supply needs.

Critical aquifer protection area: A sole source aquifer that a State may designate under a groundwater quality protection plan that has been approved by EPA under Section 208 of the CWA prior to June 19, 1986, or a sole or principal source aquifer for which a designation under the SDWA is pending before or has been approved by EPA (42 U.S.C. § 300h-6).

CCWD Rules: Established standards for managing stormwater runoff, construction best practices, and impacts to floodplains and wetlands.

Drinking Water Supply Management Area (DWSMA): The surface and subsurface area surrounding a public water supply well, including the wellhead protection area, that must be managed by the entity identified in a wellhead protection plan (MR 4720.5100).

End State: Set of required conditions that achieve the strategic objectives.

Flowpaths: Routes taken by groundwater, governed principally by the hydraulic gradient and the permeability of the geological media, as it moves through the subsurface from aquifer recharge areas, including injection wells and infiltration basins, to natural discharge areas or water production wells.

Gray-Zone: The space in between self-sustaining natural systems and capital-intensive efforts in which government and non-government actors engage in on-going, expensive temporary solutions.

Groundwater: Subsurface water contained in unconsolidated deposits and bedrock.

Groundwater-dependent ecosystems (GDEs): Communities of plants, animals, and other organisms whose existence and life processes depend on access to or discharge of groundwater, such as springs, fens, seeps, areas of shallow groundwater, hyporheic and hypolentic zones, and groundwater-fed lakes, streams, and wetlands.

Groundwater resources: The groundwater systems and the groundwater-dependent ecosystems linked to those systems that are associated with one or more parcels or units of land.

Hydraulic head: A measurement at a location within an aquifer or body of surface water of water pressure, or total energy per unit weight, above a datum, usually measured as a water surface elevation. The distribution of hydraulic head through an aquifer determines where groundwater will flow, with flow occurring from higher to lower head.

High-capacity well: A well that withdraws more than 10,000 gallons of water per day or 1 million gallons per year. High-capacity wells need an appropriation permit.

Hydraulic gradient: The ratio of the difference in the hydraulic head between two points and the distance between those points, typically determined through measurement of water-level elevations in two wells of a known separation distance.

Hydrology: The study of the distribution and movement of water both on and below the Earth's surface, as well as the impact of human activity on water availability and conditions.

Hydrogeology: The science that addresses subsurface waters and related geological aspects of surface waters.

Hyporheic zone and Hypolentic zone: The interface between the groundwater system and surface water bodies (in streams, referred to as hyporheic; in lakes and wetlands, referred to as hypolentic) where an active exchange of water, solutes, and colloids takes place and often consists of multiple flowpaths connecting surface waters and their groundwater catchments.

Intergovernmental: Existing or occurring between two or more governments or levels of government. (Local, state, or tribal)

Interventions: Actions taken by staff to implement the comprehensive, subwatershed and annual plan, including any treatments, procedures, or public information or education moments intended to improve the condition of the situation.

Issues: Are trends, forces or factors that are adversely affecting water resources or management assets through unconventional, or asymmetric means such as unauthorized fill, drainage, or pumping; persistent but irregular complaining or sniping by a persistent individual or group; ideologically based initiatives and/or debates. Irregular problems have diverse capabilities and

may change rapidly, outpacing what staff is accustomed to. They tend to be well defined, but the impact and importance of their consequences are not. They can eliminate or weaken the authority or function of an asset. They require continuous analysis to keep abreast of changes and the degree of impact and importance. They often have no answer but do have very clear consequences and their resolution is often colored by ambiguity and uncertainty that can be vigorously debated.

Karst: Terrain created by the chemical solution of the bedrock, including carbonate rocks, gypsum, and to a minor extent other rocks, and characterized by disrupted surface drainage, abundant enclosed depressions, and a well-developed system of underground drainage, which may include caves and epikarst.

Intelligence: Using information collection and analysis to provide guidance and direction to assist commanders in their decisions .

Local Water Management Plan: A written plan created by the 7 metro county area cities, as directed by legislature, 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.

Monitoring: All procedures used to collect samples, data, and information on CCWD resources, including groundwater and surface water.

Municipal supply watershed: A watershed that serves a public water system as that term is defined in the SDWA (42 U.S.C. § 300f(4)), as amended, or as defined in state safe drinking water statutes or regulations (FSM 2542.05).

Operating Environment: An operating environment is an overarching term that encompasses the many trends that influence the course and conduct of water management activities, which primarily include social, management, and hydrologic factors. An understanding of the operating environment is central to our ability to engage effectively with any of the existing or emerging water resource-based problems, issues, and concerns.

Problems: Are any indication, circumstance, or event with the potential to degrade, cause loss of damage water management assets. They tend to be tangible and controllable. They are directly related to an existing facility or water resource and can reduce the ability or functioning of those assets. They tend to be well defined conditions or situations with clear consequences. When analyzing regular problems, it is important to understand the complexities of the operating environment. Regular problems almost always have answers.

Publicly accessible water supply: A water supply that is used to provide drinking water or water of potable or near-potable quality to a business or organization; to a water distribution system that serves more than one property, facility, or lease; or to a governmental facility, and that is not to be confused with a "public water system" as defined in FSM 7420 and the SDWA.

Qualified groundwater personnel: CCWD staff or contractors with appropriate education, training, and experience in groundwater science to satisfy project needs and, if applicable, licensed or registered to practice geology, hydrology, soil science, or engineering, as appropriate, in the State in which the project is located.

Recharge: The infiltration of water into the groundwater from the ground surface, the bottom of a surface water body, or a man-made feature, such as a storage pond.

Risk Framing: The set of assumptions, constraints, risk tolerances, and priorities/trade-offs that shape an organization's approach for managing risk.

Saturated zone: Layers of unconsolidated deposits or bedrock in which all of the voids are filled with water.

Shaping: To influence the characteristics of individuals and organizations.

Source water protection area: A contributing area surrounding a public water system supply intake that is designed to protect the integrity of the water source and that has been formally designated under the SDWA (42 U.S.C. §§ 300h-6, 300h-7, and 300j-13), the CWA, or State equivalent, such as critical aquifer or wellhead protection areas.

Spring: The area on the surface of the land where a localized flow of groundwater emerges to become surface water. including seeps, limited areas within many fens, and other groundwater-fed wetlands.

Strategic Discipline: 4.1 combines the essential priorities you need to focus on, with metrics to measure your achievement, along with disciplined meeting rhythms that review progress and make corrections.

Sustainment: Providing the resources required for maintaining and supporting operations of an organization.

Sustainable use: The rate of groundwater usage that can be maintained indefinitely without substantial adverse consequence to groundwater resources.

Task Force: A unit or group of individuals specially organized to complete a specific task.

Timing: The availability of water at any specific place for a particular purpose, which is temporally variable and affected by seasonality, storm frequency, and upstream or upgradient water uses (both natural and anthropogenic).

Unconfined aquifer: An aquifer that is bounded below by a confining unit, but is open to the atmosphere above.

Unsaturated zone, vadose zone, or zone of aeration: Layers of unconsolidated deposits or bedrock that typically extend upward from a saturated zone to the surface of the land and in which the voids are filled with a combination of air and water, where the water is at less than atmospheric pressure.

Water production well: A well that is used to remove water from the subsurface and that is not associated with the extraction of hydrocarbons.

Water table: The upper surface of an unconfined aquifer where the water in the voids is at atmospheric pressure, and which is typically identified by mapping the elevations of the water levels in shallow wells extending a few feet into the zone of saturation and measuring the water level in those wells.

Well: Any drillhole, borehole, or other excavation or opening deeper than it is wide that extends more than 3 feet into the ground and that is constructed for the purpose of accessing or injecting liquids.

Wellhead protection area: The surface and subsurface area surrounding a water well or wellfield which supplies a public water system and through which contaminants are reasonably likely to reach that water well or wellfield (SDWA, 42 U.S.C. § 300h-7(e)).

Acronyms

AIS – Aquatic Invasive Species

ACD – Anoka Conservation District

BMP – Best Management Practice

BRA – Business Risk Analysis

BWSR – Board of Water and Soil Resources

CAC – Citizens Advisory Committee

CCWD – Coon Creek Watershed District

CIP – Capitol Improvement Project Plan

COE – Army Corps of Engineers

CoF – Consequence of Failure

CWA – Clean Water Act

DNR – Department of Natural Resources

DWSMA – Drinking Water Supply Management Area

EPA – Environmental Protection Agency

EQuIS - Environmental Quality Information System

FEMA – Federal Emergency Management Agency

FLMA – Federal Land Management Act

GW - Groundwater

IESF – Iron-enhanced Sand Filter

IO – Information Operation

LGU – Local Government Unit

MDM – Multi-Domain Management

MnDNR – Minnesota Department of Natural Resources

MPCA – Minnesota Pollution Control Agency

MOE – Measures of Effectiveness

MOP – Measures of Performance

MR – Minnesota Rule

MS – Minnesota Statute

MS4 – Municipal Separate Storm Sewer Systems

NPDES – National Pollutant Discharge Elimination System

NRCS – Natural Resource Conservation Service

NWI – National Wetlands Inventory

PoF – Probability of Failure

PPBE – Planning, Programming, Budgeting, and Execution

SOP – Standard Operating Procedure

SPOC – Single Point of Contact

SWPP – Stormwater Pollution Prevention Plan

TAC – Technical Advisory Committee

TALU – Tiered Aquatic Life Use

TMDL – Total Maximum Daily Load

TP – Total Phosphorus

TSS – Total Suspended Solids

TST – Time Sensitive Targets

UMRW – Upper Mississippi River Watershed

USDA – United States Department of Agriculture

USFS – United States Forest Service

USGS – United States Geological Survey

VUCA – Volatility, Uncertainty, Complexity, Ambiguity

WCA – Wetland Conservation Act

WD – Watershed District

WMO – Water Management Organization

WoG – Whole of Government

WRAPS – Watershed Restoration and Protection Strategy

WQS – Water Quality Standards