Capitol Region Watershed District

1410 Energy Park Dr., Suite 4, St. Paul, MN 55108
Phone: (651) 644-8888 Fax: (651) 644-8894 www.capitolregionwd.org

CRWD Stormwater Pollution Prevention Program

2009 Annual Report

April 21, 2010

"Our mission is to protect, manage, and improve the water resources of the Capitol Region Watershed District."

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1.0 INTRODUCTION

Capitol Region Watershed District (CRWD) is a special purpose unit of local government established in 1998 to manage, protect and improve the water resources of the Capitol Region Watershed District in the Twin Cities metropolitan area of Minnesota. CRWD drains an area of 40.6 miles from a large portion of the City of Saint Paul and smaller portions of the Cities of Roseville, Falcon Heights, Maplewood, and Lauderdale. A major responsibility of CRWD is to own, operate and maintain the Trout Brook Storm Sewer Interceptor System, a trunk conveyance stormwater system that collects and conveys runoff from the cities of Saint Paul, Roseville, Falcon Heights, and Maplewood (Figure 1). The Trout Brook subwatershed drains nearly 8,000 acres, including the subwatersheds of Como Lake in Saint Paul and Lake McCarrons in Roseville, making it the largest subwatershed in CRWD. Land use in the subwatershed is highly urbanized with 42% imperviousness and a mix of residential, industrial, and commercial uses. The Trout Brook storm sewer interceptor is almost six miles in length and varies in size from a five-foot diameter round, reinforced concrete pipe to over 11-foot square cast-in-place box sections. The interceptor receives stormwater runoff from municipally-owned lateral pipes and conveys it to the City of Saint Paul's trunk storm sewer before eventually discharging to the Mississippi River.

CRWD is considered a regulated non-traditional operator of a small municipal separate stormwater sewer system (MS4) and is required to obtain a 5-year general stormwater discharge permit under Phase II of the National Pollutant Discharge Elimination System (NPDES) stormwater program of the federal Clean Water Act. The Phase II Rule requires MS4 operators to develop and implement an enforceable stormwater pollution prevention program (SWPPP) that will reduce the discharge of pollutants from their MS4 to the 'maximum extent practicable' to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act (US EPA, 2000).

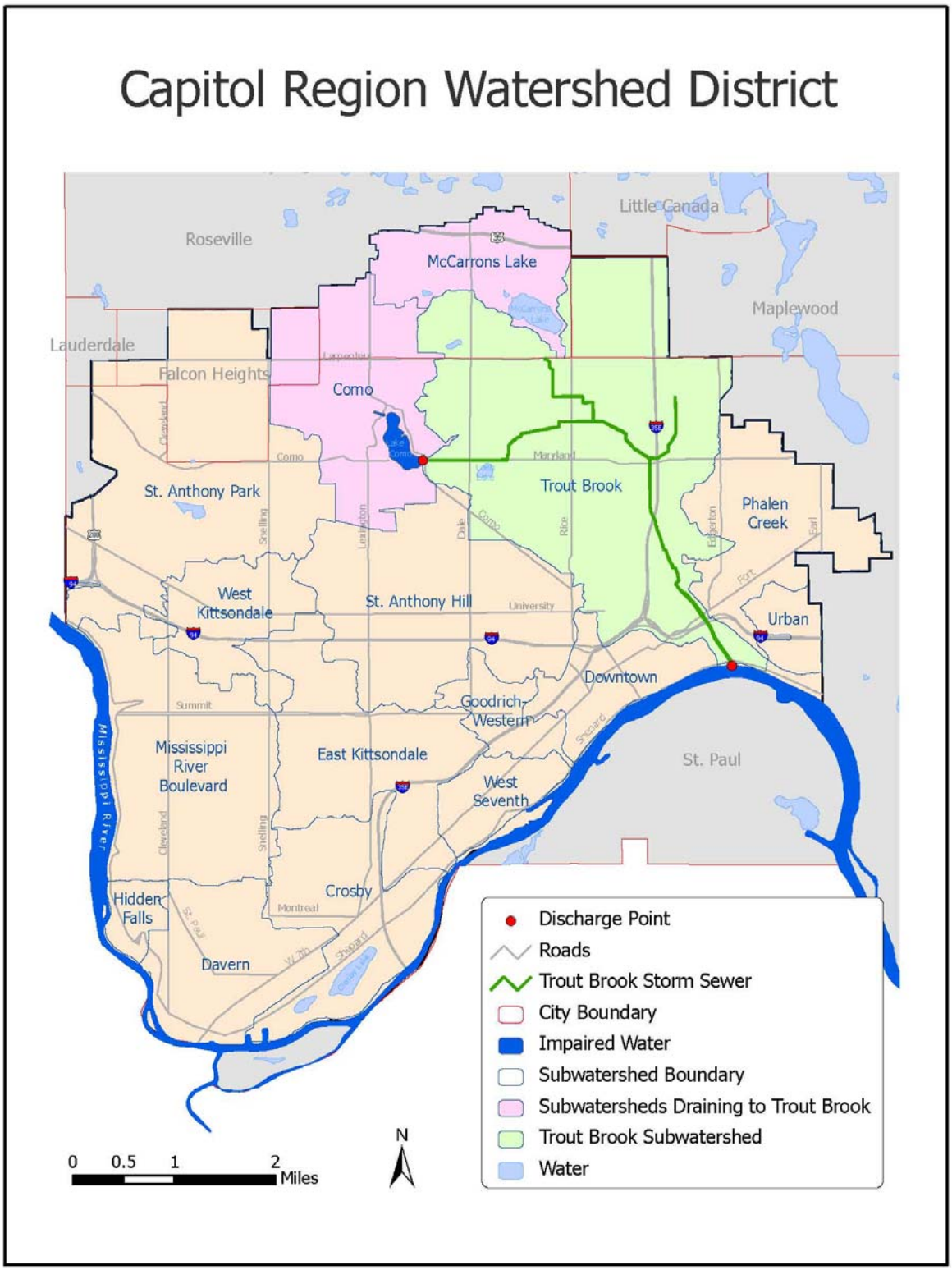
In August 2006, CRWD submitted to the Minnesota Pollution Control Agency (MPCA) a permit application and the SWPPP, which outlines CRWD's best management practices (BMPs) to control and reduce stormwater pollution. Two years later in November 2008, MPCA determined that the CRWD SWPPP is adequate and issued CRWD a 5-year MS4 General Permit under the NPDES program.

As part of the SWPPP, CRWD is required to prepare and submit an annual report of progress made-to-date on implementing the BMPs and meeting the measurable goals of the SWPPP and of any proposed revisions. This report summarizes the stormwater management work conducted for the Trout Brook storm sewer system and the entire watershed district in 2009. This is the third annual SWPPP report prepared by CRWD.

2.0 STORMWATER POLLUTION PREVENTION PLAN

As part of the Trout Brook Storm Sewer Interceptor System NPDES discharge permit, CRWD has prepared and is implementing the SWPPP to control and reduce the discharge of stormwater-related pollutants from the MS4 to protect water quality of the Mississippi River.

Figure 1. Capitol Region Watershed District



Found in Appendix A, the SWPPP consists of a combination of six minimum control measures: 1) public education and outreach; 2) public participation and involvement; 3) illicit discharge detection and elimination; 4) construction site stormwater runoff control; 5) post-construction runoff control; and 6) pollution prevention and good housekeeping. Based on consideration of the sources of pollutants, the potentially polluting activities in the watershed and the sensitivity of the receiving waters, CRWD has selected the best management practices for each minimum control measure to accomplish federal and state regulatory requirements and CRWD water quality goals. CRWD provides BMP summary worksheets that include practice descriptions, the measurable goals, the implementation schedule and procedures, and the responsible staff person for implementation. Table 1 lists the required BMPs for each minimum control measure.

CRWD refers to several supporting documents for carrying out the SWPPP which includes the Watershed Management Plan (CRWD, 2000), CRWD Rules (CRWD, 2009), and BMP Inspection and Maintenance Protocols (CRWD, 2009). The Watershed Management Plan, created in 2000, defines the watershed goals and policies of CRWD, describes the current watershed issues, provides an inventory of the land and water resources, and defines the activities and measures to protect and restore the watershed. CRWD is updating the Watershed Management Plan and is targeting a completion date of summer 2010. In the fall of 2006, CRWD promulgated rules to minimize the water quality, erosion, sedimentation and flooding impacts of development and redevelopment on local waters. The latest revision to CRWD Rules was made and approved by CRWD Board of Managers in January 2010. CRWD's BMP Inspection and Maintenance Protocols outline the procedures and maintenance schedules for BMPs owned or under agreement for maintenance by CRWD.

3.0 2009 SWPPP ACTIVITIES

Below is a narrative description of the stormwater management accomplishments in 2009. Appendix B includes the completed MPCA Annual Report Form for 2009, which summarizes CRWD's stormwater-related activities and accomplishments with particular emphasis on Minimum Control Measure No. 5, Long-Term (Post Construction) Stormwater Measures.

3.1 Public Education and Outreach – Minimum Control Measure No. 1

In 2009, CRWD implemented a variety of watershed education and outreach activities that focus on local stormwater issues and on public behaviors and activities to address these issues. CRWD raises awareness about the watershed and environmentally sensitive behaviors and activities through presentations to students and residents, CRWD newsletters, press releases to local newspapers and supportive partnerships with Saint Paul district planning councils and community organizations. CRWD also provides technical assistance through our Stewardship and Partner Grant Programs for water quality improvement projects and when possible through environmental learning service projects in area schools.

<u>2009 Outreach</u>
CRWD staff visited seven schools in the watershed district, which included Webster School, Great River School, Jackson Elementary School, Falcon Heights Middle School, Washington

Table 1. Best Management Practices for Each Minimum Control Measure

BMP ID	Best Management Practices for Each Minimum Control Measure
MCM #1: Public Education & Outreach	
1a-1	Distribute Educational Materials
1b-1	Implement an Education Program
1c-1.1	Education Program: Public Education and Outreach - District Website
1c-1.2	Education Program: Public Education and Outreach – Como Lake Water Festival
1c-1.3	Education Program: Public Education and Outreach – Join Metro WaterShed Partners
1c-1.4	Education Program: Public Education and Outreach – Media Communication
1c-2	Education Program: Public Participation
1c-3	Education Program: Illicit Discharge Detection and Elimination
1c-4	Education Program: Construction Site Runoff Control
1c-5	Education Program: Post Construction Stormwater Management
1c-6	Education Program: Pollution Prevention/Good Housekeeping
1d-1	Coordination of Education Program
1e-1	Annual Public Meeting
MCM #2: Public Participation/Involvement	
2a-1	Comply with Public Notice Requirements
2b-1	Solicit Public Input and opinion on SWPPP
2c-1	Consider Pubic Input
MCM #3: Illicit Discharge Detection and Elimination	
3a-1	Storm Sewer System Map
3b-1	Regulatory Control Program
3c-1	Illicit Discharge Detection and Elimination Plan
3d-1	Public and Employee Illicit Discharge Information Program
3e-1	Identification of Non-Stormwater Discharges and Flows
MCM #4: Construction Site Stormwater Runoff Control	
4a-1	Ordinance or other Regulatory Mechanism
4b-1	Construction Site Implementation of Erosion and Sediment Control
4c-1	Waste Controls for Construction Site Operators
4d-1	Procedure for Site Plan Review
4e-1	Procedure for Receipt of Reports of Stormwater Non-compliance
4f-1	Procedures for Site Inspection and Enforcement
MCM #5: Post Construction Stormwater Management for New Development/Redevelopment	
5a-1	Development and Implementation of Structural and/or Non-structural BMPs
5b-1	Regulatory Mechanism to Address Post Construction Runoff for Development
5c-1	Long-term Operation and Maintenance of BMPs
MCM #6: Pollution Prevention/Good Housekeeping for Municipal Operations	
6a-1	Municipal Operations and Maintenance Program
6b-2	Annual Inspection of All Structural Pollution Control Devices
6b-3	Inspection of MS4 Outfalls, Sediment Basins, and Ponds
6b-4	Inspection Follow-up
6b-5	Record Reporting and Retention of al Inspections and Responses to Inspections
6b-6	Evaluation of Inspection Frequency

Middle School, Jackson-FH Schools, and Saint Paul Academy. Over 450 students were reached with information on stormwater, raingardens, water monitoring, and the watershed district. CRWD also offered training to teachers in 2009. On two separate occasions, CRWD partnered with Eco Education and Saint Paul Public Schools to provide watershed information to teachers.

CRWD held eight raingarden, native plant, or rain barrel workshops in 2009 for the Saint Paul District Planning Councils (D4, D6, D12, D13 and D16) and at the Roseville Home and Garden Fair in February, the Living Green Expo in May, and Mississippi Market in Saint Paul in September. In addition, 62 people attended one of two public tours of CRWD's raingardens in the Como neighborhood of Saint Paul.

CRWD also co-sponsored two cleanups in the watershed: 1) Como Lake in June with Saint Paul District Planning Council 10; and 2) Willow Reserve with Hill Murray School in April. CRWD also partnered with Community Design Center for storm drain stenciling in the eastern portion of the watershed in July.

CRWD staff served on the planning committee and was an endorsing sponsor for a Green Infrastructure for Clean Water conference held last fall at the Minnesota Landscape Arboretum. The intent of the conference was to raise the awareness of green infrastructure as a sustainable, cost-effective, and environmentally-friendly approach to managing stormwater. Keynote speakers for the event were Tom Schueler, formerly with the Center for Watershed Protection and currently with the Chesapeake Bay Network, and Michael Mucha, Director for Olympia, Washington Public Works Department. CRWD invited municipal officials and employees to the conference. Six municipal representatives accepted CRWD's invitation and attended the conference.

In 2009, another mechanism for disseminating information about stormwater, water quality improvement projects and CRWD's stewardship grant program was print media including two CRWD newsletters, twelve press releases about CRWD events and programs, and four local newspaper articles on raingardens and other stormwater-related topics.

CRWD also hosts and maintains a website, www.capitolregionwd.org, which was redesigned in 2009. Besides the existing information about the watershed, stormwater quality data, stormwater funding opportunities, and CRWD's Permitting Program, the new website also includes additional information about Trout Brook Storm Sewer Interceptor System and a Stormwater 101 page that provides basic information about the natural and man-made water cycles and the pollutants found in stormwater. Also to be found on the new site is tips on how different audiences (i.e., homeowners, businesses, developers and students) can reduce their impact on local water resources.

2009 WaterShed Partners Participation

CRWD also regularly attends monthly meetings of the Metro WaterShed Partners (WSP), a coalition of more than 50 public, private and non-profit organizations in the Twin Cities metro area. The Partners collaborate on outreach projects and share resources with the goal of

inspiring people to act within their watershed. The WSP website, www.cleanwatermn.org, is a source for public stormwater pollution prevention education materials and products for stormwater educators, students, municipal and watershed organization staff. In 2009, WSP developed an MS4 toolkit that was designed to help educate citizens, businesses, municipal staff and elected officials about non-point source water pollution. Within this toolkit there are sample brochures, newsletter articles, posters, videos and more, which can be edited to tailor for specific MS4s and locally specific water resource concerns.

WaterShed Partners Media Campaign

Staff also participated in quarterly meetings of the WSP subcommittee, *Minnesota Water — Let's Keep It Clean!* media campaign. Since 2007, the collaborative has launched an annual media campaign that has included radio and cable television service announcement spots aimed at educating the public about polluted runoff prevention. Billboards throughout the metro area including have been used to raise awareness about water pollution prevention. In 2009, two billboards in CRWD had simple messages on the impacts of improper fertilizer use and car washing. Table 2 lists the 2009 WSP media activities.

Table 2. 2009 WSP Media Campaign

Media Type/Channel	Number of Ads	Message	Impressions
Channel 45, KSTC TV PSAs	- 221 30-sec PSAs in May - 40 30-sec PSAs in August	"Rubber Ducks" and "Fish bowl" ads to keep stormwater clean – rake, sweep and pick up	1,300,000
MPR	- 18 PSAs in Spring	Message of "Streets connect to Streams" for pollution prevention	544,000
Comcast Cable	- 359 30-sec PSAs in Fall Online web streaming of - - 30-sec PSAs on Comcast.net	"Rubber Ducks" and "Fish Bowl" ads to keep stormwater clean – rake, sweep and pick up	1,960,000
Billboards	- 12 metro billboards – one in CRWD	Fertilizer use, dog waste pickup and car washing	7,300,000
Saint Paul Saints Baseball	- 96 30-sec PSAs during baseball season - 48 30-sec TV PSAs during baseball season	"Lake Patricia Funeral" nutrient reduction PSA	2,200,000

2009 Blue Thumb™ Participation

Staff also participated in quarterly meetings of the Blue Thumb™ Partnership, a program that promotes the use of native plants to watershed residents as an alternative to turf in raingardens, native plant gardens, and shoreline restoration projects. Blue Thumb™ Partners created a website of gardening resources for use by residents, and share print materials for distribution to

local residents. Partners also benefit from the shared technical assistance of partners, and the opportunity to cultivate a consistent message when communicating with watershed residents.

In 2009, BlueThumb™ participated in several environmental-related events to disseminate the message of using native plants and other environmentally friendly landscaping behaviors. BlueThumb™ sponsored an exhibit at the Waterosity exhibition at the Minnesota Landscape Arboretum in Summer 2009. The exhibit included Art Nouveau-inspired metal trellises using graduated heights of Minnesota native plantings, and persuasive messaging and gardening ideas for water quality friendly landscaping that reduces water pollution and stormwater runoff. In addition, members of BlueThumb™ attended the Living Green Expo in May and MN State Fair Eco Experience in August to provide information about planting for clean water.

3.2 Public Involvement and Participation

CRWD established a citizen's advisory committee (CAC) in 1998 to advise and assist the Capitol Region Watershed District Board of Managers with:

- CRWD organizational development, planning processes, and program implementation;
- CRWD communications between the citizenry and the Board of Managers;
- consensus building and conflict resolution; and
- additional roles as jointly determined by the CAC and the Board of Managers.

CAC meetings are held on a monthly basis and open to the public. CRWD provides program and project updates to CAC members and solicits their input on CRWD activities including stormwater management projects and CRWD rules and permitting. Currently there are 15 CAC members.

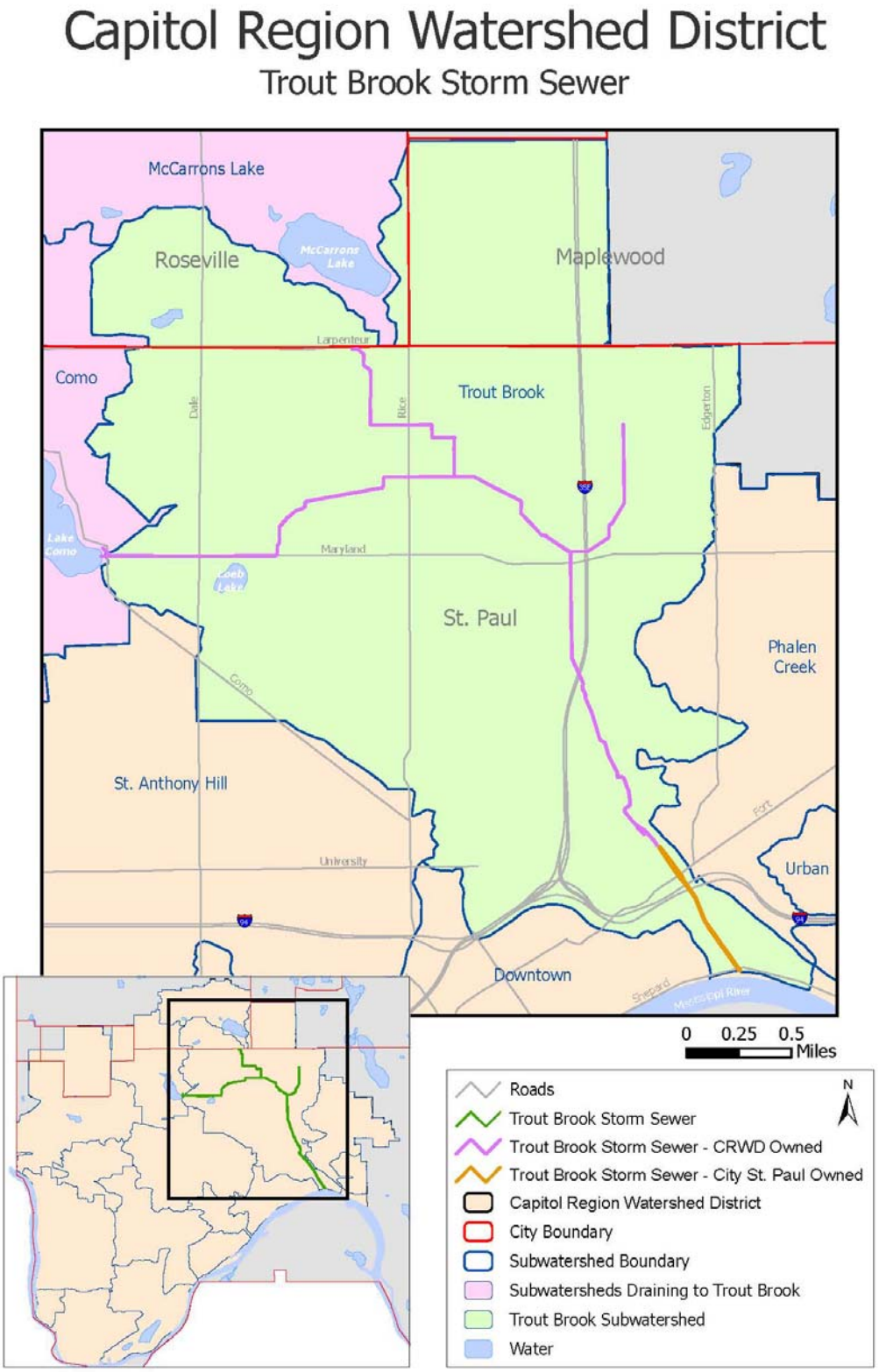
Public input on CRWD's SWPPP was solicited in spring 2010. A 30-day public comment period on the SWPPP and CRWD's 2009 stormwater management activities was held from April 26, 2010 to May 25, 2010. In addition, a public meeting was held in junction with the Board of Manager's meeting on May 19, 2010. CRWD provided advanced notice of the public meeting on our website, www.capitolregionwd.org, the Saint Paul Pioneer Press, and two other local newspapers. CRWD also attended the CAC meeting on May 12, 2010 to present the previous year's SWPPP activities and accomplishments.

3.3 Illicit Discharge Detection and Elimination

To better understand the components of the Trout Brook Storm Sewer Interceptor System and aid in identifying illicit discharges, CRWD has created a digital map of the storm sewer system that includes the conveyance pipe, subwatershed boundaries, waterbodies including lakes, ponds, and wetlands, outfall location, and city boundaries (Figure 2).

In late 2006, to ensure protection of local water quality and wetlands and reduce flooding, CRWD developed and promulgated a set of rules for its Permitting Program that regulates illicit discharges and connections (CRWD, 2006). Under Rule G, illicit connections and discharges to CRWD's MS4 are prohibited and any new direct connections are not allowed if

Figure 2. Trout Brook Storm Sewer System



the connection will cause or exacerbate water conveyance problems in the system. The rule also outlines the inspection and enforcement protocols for illicit discharges.

No illicit discharges were identified in the Trout Brook subwatershed in 2009. However, in late April 2009, CRWD observed an illicit discharge to the storm sewer system in the Phalen Creek subwatershed located just outside of Trout Brook subwatershed. Behind the office of Bricklayers and Allied Craftworkers Local Union 1 located on Minnehaha Avenue, dumping of prohibited materials, concrete and grout, near two storm drains was discovered by CRWD staff. During storm events, the concrete and grout mostly likely ran off into the municipal storm drain which connects to CRWD's storm sewer system and discharges into the Mississippi River. CRWD wrote a letter to the local union requiring them to remove the prohibited materials in front of or near the storm drains and to provide reasonable protection against future illegal dumping and discharges to the storm sewer system. The letter to the local union is found in Appendix C.

The public can report possible illegal stormwater discharges or improper dumping into storm drains or a waterbody on CRWD's website. In 2009, no illegal stormwater discharges were reported online.

Over the past several years, CRWD's stormwater monitoring data has indicated that there is an illicit discharge issue in the East Kittsondale subwatershed of CRWD, which is outside of CRWD's regulated Trout Brook subwatershed. During dry weather in 2009, five bacteria samples had concentrations greater than 100,000 colony forming units per 100 milliliters. In 2009, CRWD collected and analyzed additional parameters, ammonia, potassium, fluoride, and surfactants, to differentiate the source(s) of the illicit discharge as sanitary wastewater, washwater, natural water, and tap and/or irrigation water. The results of the ammonia and potassium ratio, fluoride and surfactants were inconclusive providing no clear distinctions of the illicit discharge sources. Other bodies of evidence that signal illicit discharges in East Kittsondale are the surges in flow during dry weather periods and white, fungal masses attached to the sewer bottom that have been observed by CRWD staff since 2008. CRWD has shared this information with the City of Saint Paul, the MS4 community whose jurisdiction includes East Kittsondale subwatershed.

3.4 Construction Site Stormwater Runoff Control

CRWD Rules have provisions for the control of erosion and sediment from any land disturbing activity equal to or greater than one acre. Developers are required to develop an erosion and sediment control plan for the construction period as part of their permit application. Erosion and sediment control measures shall be consistent with best management practices, and shall be sufficient to retain sediment onsite as demonstrated in the MPCA manual, "Protecting Water Quality in Urban Areas" (MPCA, 2000). The measures must meet the design, operation and maintenance standards outlined in the NPDES general permit for stormwater discharges from construction activities (US EPA, 2005). CRWD Erosion and Sediment Control Rule F also includes a provision for disposal of construction site waste.

CRWD has developed and initiated a permit review process for site plans of new developments and redevelopments projects that meet CRWD's size threshold of one acre of disturbance. The permit process flow chart outlines the steps for reviewing the permit application as well as lists who is involved, the timeline and deliverables. In 2009, 40 development projects equal to or greater than one acre were reviewed for compliance with CRWD's erosion and sedimentation control rule. Development sites were inspected by CRWD staff on a regular basis, typically twice a month and after a rain event, during the duration of construction. CRWD placed higher inspection priority on the development projects with greater potential of off-site sediment runoff and/or poor compliance history. CRWD completed inspection reports or checklists of the erosion and sediment control measures implemented, such as inlet protection, stabilized entrance measures, and dewatering activities.

This rule also has enforcement mechanisms to ensure compliance, which include verbal warnings, written warnings, stop-work orders, forfeiture of security bond money and court injunction to stop work. In 2009, CRWD issued 20 written warnings of violations to the erosion and sediment control rule with the most common problems being lack of street sweeping and inlet protection. No other enforcement actions were needed to ensure compliance in 2009.

In addition, no outside reports of erosion and sedimentation issues were made to CRWD in 2009. A complaint can be brought to the attention of CRWD through our website, via email or by calling.

3.5 Post-Construction Stormwater Management

The requirements for post-construction stormwater management on new development and redevelopment sites equal to or greater than one acre are covered in CRWD's Rules (Rule C). Through the permitting process, CRWD encourages developers and property owners to select, design and implement innovative BMPs on their properties. These innovative BMPs filter and/or infiltrate stormwater runoff and mimic the natural water cycle by soaking water into the ground. They reduce stormwater volume and peak discharges, are more effective in removing pollutants, increase groundwater recharge, and aid in reducing flooding and erosion and sedimentation. CRWD requires permittees to reduce the stormwater volume generated from the first one-inch of rainfall because research indicates that this will address 90% of all precipitation events and about 87% of all rainfall volume in Minnesota.

Information on BMPs installed in 2009 and volume of stormwater treated and/or retained by each BMP are entered into the permits database. In 2009, 31 (re)development projects greater than one acre applied for a CRWD permit with only one project not receiving approval for a CRWD permit. The total area disturbed by these 30 projects is over 100 acres. The most common water quality treatment and/or volume reduction BMPs proposed were infiltration trenches, infiltration basins, infiltration systems, raingardens and filtration systems. There was one pervious pavement project and no green roof projects. These BMPs will control runoff from 66 acres of impervious area and treat a total of nearly 195,000 cubic feet out of 219,000 cubic feet of stormwater runoff. The remaining 12% stormwater volume will be treated off-

site. Almost 85% of the treated stormwater will be infiltrated into the ground while 15% will be filtered before discharging into the storm sewer system.

CRWD's website provides information on innovative stormwater BMPs including a fact sheet on how to build a rain barrel, instructions on how to obtain the Blue Thumb Raingarden Guidebook, a link to the stormwater BMP section of the Minnesota Stormwater Manual (MPCA, 2005) and a fact sheet on permeable pavement. Also uploaded onto the website is information about CRWD's Arlington-Pascal Stormwater Improvement Project, which includes an underground storage/infiltration facility, eight infiltration trenches, eight raingardens, and the Como Park golf course stormwater pond. These BMPs are located in the Como Lake subwatershed, which drains to Trout Brook storm sewer system. CRWD has established a BMP operation and maintenance program for these BMPs as well as the Villa Park wetland system in Roseville and the Sarita wetland and Sheep Pasture infiltration basin both located on the University of Minnesota-Saint Paul campus.

3.6 Pollution Prevention/Good Housekeeping for Municipal Operations

To ensure that BMPs operate according to design and achieve the highest level of pollutant removal, CRWD follows BMP operation and maintenance protocols that define the instructions and schedule for inspection and maintenance of the BMPs owned by CRWD or under agreement to be maintained by CRWD (CRWD, 2009). The eight raingardens, Villa Park wetland, and Como Park golf course stormwater pond are inspected and maintained on monthly basis while the eight underground infiltration trenches and an underground storage facility are inspected semi-annually. In addition, all BMPs including Sarita wetland and Sheep Pasture infiltration basin are inspected after a rainfall event equal to or greater than one inch. The inlets, catch basins and manholes to these BMPs are inspected and maintained semi-annually to ensure successful and effective operation. CRWD has created an EXCEL database for BMPs that lists the type of BMP, the date, time and number of hours of the inspection and/or maintenance activity, the staff involved in the activity, and description of maintenance performed.

CRWD staff spent a grand total of 750 hours maintaining the Arlington Pascal Stormwater BMPs and Villa Park wetland in 2009 (Table 3). The 2009 maintenance activities included sediment and debris removal in the spring and fall from the pretreatment chamber of the underground storage facility and the catch basins of the infiltration trenches. Maintenance of the eight raingardens included removal of weeds and debris, replacement of plants, and placement of additional mulch material. Staff time on maintaining each raingarden ranged from 30 hours to 70 hours in 2009. Inspections and minimal maintenance (i.e., trash pick-up along shore and pond outlet) were conducted for the stormwater pond in the Como Park Golf Course.

Table 3. CRWD 2009 BMP Maintenance Hours

Maintenance Task or BMP	Hours
General	24
Arlington Hamline Underground Storage	31
Infiltration Trenches	99
Raingardens	549
Golf Course Pond	16
Villa Park Wetland	31
TOTAL	**750**

4.0 ANTICIPATED KEY ACTIVITIES FOR 2010

For CRWD's Education and Outreach Program in 2010, a communications campaign will be developed and implemented targeting single family homeowners in a small subwatershed of District 14 in St. Paul as well as the entire watershed to change personal behaviors that impact lake and Mississippi River water quality. The focus of the campaign will be to popularize new target behaviors, such as downspout redirection away from hard surfaces on residential lots, leaf and clipping removal from streets, and best fertilizer practices, to improve local water quality.

CRWD will also promote leaf and lawn clipping cleanups in streets in fall 2010 in partnership with other metro watershed districts. This program has been developed by the Freshwater Society, a non-profit dedicated to the promotion of the conservation, protection and restoration of all freshwater resources, to target one of the most significant sources of nutrients to local waters.

Last year, CRWD made additional progress on MCM #3 – Illicit Discharge Detection and Elimination by conducting additional water quality monitoring in the East Kittsondale subwatershed. This included collecting more bacteria samples and sampling for other discharge type indicator parameters. CRWD convened a meeting with the City of Saint Paul in the spring 2009 to discuss the water quality issues in East Kittsondale and methods for tracking and identifying illicit discharges. CRWD also provided frequent updates throughout 2009 to the City on water quality and flow monitoring results. For 2010, CRWD will continue to conduct more frequent bacteria sampling and work with the City on tracking the source(s) of the illicit discharges in East Kittsondale. CRWD will also investigate the use of in-field instruments for measuring the other indicator parameters instead of relying on laboratory analysis, which does not provide quick turnaround time of results.

Last year, CRWD began a technical analysis of lowering the development size threshold to less than an acre for CRWD Rules. This would require property owners of smaller sites to comply with the Rules for construction site erosion and sediment control and post construction stormwater management. CRWD anticipates completing the analysis this year and convening the technical advisory committee to discuss the analysis and assess the benefits, challenges and issues related to lowering the permit threshold.

5.0 RECOMMENDED MODIFICATIONS TO THE SWPPP

CRWD does not anticipate making any modifications to the SWPPP for 2010.

6.0 REFERENCES

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