

**STORM WATER POLLUTION PREVENTION PROGRAM
FOR THE MANAGEMENT
OF MUNICIPAL SEPARATE STORM SEWER SYSTEMS
WITHIN THE CITY OF CIRCLE PINES**

CERTIFICATION

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

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Date: May 15, 2006

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I. INTRODUCTION

This Storm Water Pollution Prevention Program (SWPPP) has been prepared in conformance with the National Pollutant Discharge Elimination System (NPDES), Phase II Rules and is in compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251ET SEQ; hereafter, the “Act”), 40 CFR 122, 123, and 124, as amended, ET SEQ; Minnesota Statutes Chapters 115 and 116, as amended and Minnesota Rules, Chapter 7001. The urbanized area covered by this SWPPP is shown in **Figure 1**.

The goal of the National Pollutant Discharge Elimination System Permit is to restore and maintain the chemical, physical, and biological integrity of waters of the state through management and treatment of urban storm water runoff. The Department of Natural Resources Wetland and Waters, and the wetlands identified in the National Wetland Inventory located within the project area are shown in **Figure 2 & 3**. This program requires that this be accomplished through the management of Municipal Separate Storm Sewer Systems (MS4s) through the preparation of a Storm Water Pollution Prevention Program (SWPPP).

The SWPPP identifies the goals and the Best Management Practices (BMPs) that will be undertaken to meet the requirements of the NPDES Phase II rules. Measurable goals have been established for each of the BMPs included in the SWPPP along with an implementation plan and the persons responsible for implementing the BMPs.

This SWPPP has been prepared to manage and reduce the discharge of pollutants from MS4s to the maximum extent practicable (MEP). This will be accomplished through the implementation of the BMPs outlined within this SWPPP. These BMPs could be a combination of education, maintenance, control techniques, system design and engineering methods, and other such provisions that are appropriate to meet the requirements of the NPDES Phase II permit. BMPs have been prepared to address each of the six minimum control measures as outlined in the rules. These six minimum control measures are:

1. Public education and outreach on storm water impacts.
2. Public participation/involvement.
3. Illicit discharge detection and elimination.
4. Construction site stormwater runoff control.
5. Post construction storm water management in new development and redevelopment.
6. Pollution prevention/good housekeeping for municipal operations.

For each of these six minimum control measures, appropriate BMPs have been identified along with measurable goals, an implementation schedule, and the persons responsible to complete each measure.

Figure 1
Location Map

Figure 2
DNR Public Waters Map

Figure 3
National Wetlands Inventory Map

II. MUNICIPAL SEPARATE STORM SEWER SYSTEM EVALUATION

An evaluation of the storm sewer system was completed to determine the factors affecting the Maximum Extent Practicable (MEP) standards set forth within the NPDES Phase II Rule. Factors which were used in developing the BMPs outlined in this SWPPP were as follows:

1. Sources of pollutants
2. Potential polluting activities being conducted in the watershed
3. Sensitivity of receiving waters and wetlands within the system
4. Intended uses of receiving waters
5. Local concerns and storm water issues
6. The size of the MS4, the available staff, and the number of residents
7. BMP implementation schedules
8. Ability to finance storm water related programs
9. Hydraulics and hydrology of the watershed
10. Geology
11. Ability to finance and perform operation and maintenance of the MS4
12. Land uses
13. Development and redevelopment expectations
14. Watershed characteristics
15. Organizational structure of the municipal operator

In conformance with the requirements for the preparation of the SWPPP, a number of non-storm water discharges were evaluated to determine if they are significant contributors of pollutants to the storm sewer system. Non-storm water discharges which were evaluated include:

1. Flushing of municipal waterlines
2. Residential, commercial and agricultural landscape irrigation
3. Stream flow diversions
4. Groundwater outputs and rising elevations
5. Uncontaminated pumped ground water
6. Uncontaminated groundwater infiltration
7. Filtration backwash from municipal water treatment facility
8. Discharge of foundation drains into the MS4
9. Potable water source discharges
10. Condensation from air conditioning units
11. Car washing by individual residents
12. Discharges from the chlorinated swimming pools
13. Wash water from street sweeping activities
14. Water discharged from firefighting activities

These sources of non-storm water inputs into the municipal separate storm sewer system were determined **not** to be significant contributors of pollutants. Therefore, BMPs will not be prepared to address these storm water discharges.

The City of Circle Pines has developed this SWPPP, and the Best Management Practices within it, to reach the goal of reducing the discharge of pollutants to the “maximum extent practicable.”

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This SWPPP incorporates new activities and existing practices to develop a program, designed to protect water quality as required by the Clean Water Act. The BMPs included within this SWPPP, are the results of the City carefully and thoughtfully evaluating the storm water discharges within their jurisdiction, and as a result believe implementation of these BMPs meet the prescribed “maximum extent practicable” standard.

III. STORM WATER POLLUTION PREVENTION PROGRAM

This Storm Water Pollution Prevention Program (SWPPP) outlines the Best Management Practices (BMPs) which are appropriate for the City of Circle Pines to control or reduce the pollutants in storm water runoff to the maximum extent practicable. This SWPPP was developed based on the factors previously discussed within the areas tributary to the Municipal Separate Storm Sewer System.

The City of Circle Pines reserves the right to amend and/or delete the described BMPs based on the availability of funding for this program. Furthermore, the City may coordinate the responsibility of selected BMPs with other governing agencies such as community groups, non-profit organizations, soil and water conservation districts, watershed districts, watershed management organizations, school districts, University of Minnesota Extension, or county, regional, state, and federal government programs, which represent storm water within the City.

Best Management Practices (BMPs) have been prepared for each of the six minimum control measures. A description of each BMP, an implementation schedule, measurable goals that determine the success or benefit, and the person responsible to complete each BMP is included in **Section II**.

A description of the six minimum control measures and the BMPs which have been developed to meet the requirements of each minimum control measure are outlined in the following pages:

MCM 1.0 PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

The public education program has been developed to distribute educational materials to the community or conduct equivalent outreach activities. The BMPs identified will focus on the impact of storm water discharges on streams, rivers, and wetlands, and the steps that the public can take to reduce pollutants in storm water runoff.

These activities have been prepared to individually address each of the six minimum control measures. For each minimum control measure, the education program identifies the audience or audiences involved, educational goals for each audience, activities used to reach educational goals for each audience, activity implementation plans, including responsible persons in charge, entities responsible for given activities, and schedules and performance measures that can be used to determine success in reaching educational goals.

The public education and outreach BMPs that will be undertaken include:

- 1) Produce and distribute information on illicit discharges, erosion, shoreline management, composting and pollution prevention and other applicable BMPs utilized in the SWPPP. This information may be distributed through City mailings, newsletters, bill stuffing, and on the City website.
- 2) Incorporate public information on the SWPPP issues into a separate page on the City’s website. The web page would specifically describe the SWPPP, each minimum control measure, the goals and actions planned by the City, provide links to BMPs, articles on each control measure, and collect feedback from site visitors.
- 3) Provide training opportunities for City staff including erosion control, BMPs, good housekeeping, and pollution prevention. Training topics could include, but are not limited to:
 - a) Mn/DOT Erosion Control Certification
 - b) Storm Water Pollution Prevention Program Workshops
 - c) Best Management Practices Workshops
 - d) Brochures and publications distributed to staff
- 4) Coordinate/develop public education materials and outreach programs with the Rice Creek Watershed District and Anoka Conservation District. Programs will consist of website development, public presentations, educational materials, etc.

MCM 2.0 PUBLIC PARTICIPATION/INVOLVEMENT

This minimum control measure requires that the City provide measures to receive public input and opinion on the adequacy of the SWPPP. This input can be received from public meetings, oral testimony, and written correspondence. To reach this goal, the City anticipates implementing the following BMPs:

- 1) Conduct an annual public meeting on the City’s Storm Water Pollution Prevention Program and solicit opinion on the plan and consider written and oral input on the adequacy of the SWPPP.

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- 2) The City intends to incorporate public information on SWPPP issues into a separate page on the City's website. The web page would specifically describe the SWPPP, each minimum control measure, the goals and actions planned by the City, provide links to BMPs, articles on each control measure, and collect feedback from site visitors.

MCM 3.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

A number of BMPs have been developed to implement and enforce a program to detect and eliminate illicit discharges into the municipal separate storm sewer system. These BMPs include:

- 1) Review existing city ordinances relating to illicit discharges, and develop/adopt an illicit discharge ordinance (if necessary).
- 2) Utilize volunteer organizations to collect trash and debris from roadsides.
- 3) Annually update all identified City-owned storm sewer conveyances (24" or greater) to reflect changes or additions to the storm sewer system. This will also identify all outfalls and discharge points leaving the City.
- 4) Continue to visually inspect and record all reported non-stormwater discharges within 24 hours of discovery and/or report.
- 5) Train City staff, implement procedures, and incorporate BMPs in handling equipment and hazardous materials used by the City.
- 6) Develop and implement a program to detect and reduce non-storm water discharges, including illegal dumping.

MCM 4.0 CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

A number of BMPs have been developed and will be implemented and enforced to reduce pollutants and storm water runoff from construction activities with land disturbances equal to or greater than one acre. These BMPs include:

- 1) Review current permit stipulations/City codes relating to project specific erosion and sediment control (update as necessary).
- 2) Every applicant for a City permit to allow land disturbing activities must submit a project specific stormwater management plan (if applicable) and/or erosion control plan to the City.
- 3) Provide a phone number, website, and point of contact for the public to report storm water pollution issues. Staff procedures for stormwater non-compliance are defined in BMP summary sheet 4e-1.

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- 4) Construction site operators must conform to NPDES Phase II, watershed district, and City ordinances pertaining to erosion and sediment controls and waste controls.
- 5) All erosion control inspections, violations, and remedial actions taken by the City will comply with NPDES Phase II construction permit guidelines. New City staff will be provided erosion control training within 3 years of the individual's hire date.

MCM 5.0 POST CONSTRUCTION STORM WATER MANAGEMENT FOR NEW DEVELOPMENT AND REDEVELOPMENT

A program of BMPs has been prepared to address storm water runoff from new development and redevelopment projects that disturb equal to or greater than one acre. This program insures that controls are in place that would prevent or minimize water quality impacts from development activities. These BMPs include:

- 1) Continue to use existing development review policies currently in place to address water quality, erosion control, and BMP's.
- 2) City staff will document and record all repairs, maintenance, or new construction of structural and non-structural BMP's used on City construction projects.
- 3) Inspecting post-construction BMP's then evaluate inspection records for determining the corrective maintenance actions (if necessary) for the long-term operation of all storm water management facilities.

MCM 6.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

To meet the requirements of the pollution prevention and good housekeeping for municipal operations, a number of BMPs have been prepared. These BMPs include:

- 1) Annual inspection of 20% of the outfalls, sediment basin, and ponds within the city's storm sewer system. The results of these inspections will be compiled in a report and include sediment levels, watershed information and record recommended maintenance and maintenance schedules
- 2) Inspect and document all structural pollution control devices a minimum of once per year.
- 3) Evaluating, annually inspecting, and modifying (if necessary) current BMP's in place on all exposed stockpiles, storage, and materials located within City owned property.
- 4) The City will annually evaluate landscaping and lawn-care practices, which may include the use of fertilizers, pesticides, herbicides, lawn mowing, grass clipping collection, mulching and composting, and develop BMPs to reduce storm water pollution.
- 5) The City will annually review practice and policies of road salt applications. The City will consider alternative products, calibration of equipment, inspection of vehicles and staff training to reduce pollutants from road deicing activities.

- 6) The City will continue with the current street sweeping program, identify improvements, and implement changes to reduce storm water pollutants.

MCM 7.0 ADDITIONAL BEST MANAGEMENT PRACTICES

- a. The City will adopt and implement the Minnesota Department of Health's "*Evaluating Proposed Storm Water Infiltration Projects in Vulnerable Wellhead Protection Areas*" (Draft-July 19, 2006) as a guidance manual in evaluating all proposed infiltration projects within or adjacent to vulnerable drinking water supply management areas (DWSMA).

IV. BEST MANAGEMENT PRACTICES IMPLEMENTATION PLAN

A summary of BMPs are provided in **Table 1**. Detailed descriptions of each of the BMPs contained within the SWPPP are provided in **Section II**.

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**Table 1
BMP IMPLEMENTATION PROGRAM**

Best Management Practices	Description of BMP & Goal	Schedule
MCM 1 Public Education and Outreach		
1a-1 <u>Distribute Educational Materials</u> Brochures, Handouts, and Newsletters, SWPPP Web Page, Annual Public Meeting	Produce and distribute information on illicit discharges, erosion control, 6 MCM's, BMP's, shoreline management, and other SWPPP practices. Coordinate with RCWD and ACD to develop educational materials and outreach programs.	January 1, 2007. Annually evaluate and update as needed 2008 – 2011.
1b-1 Implement an Education Program	Record attendance, web site visits, keep minutes, record statements/requests, and written comments.	January 1, 2007. Annually evaluate and update as needed 2008 – 2011.
1c-1 through 1c-6 Education Programs	Increase awareness, understanding, and knowledge of daily behavior changes, the City's SWPPP, and 6 MCM's that reduce stormwater pollution within the City.	Refer to each specific educational program BMP summary sheet.
1d-1 Coordination of Educational Programming	Continue to coordinate educational components, programming, and schedule with outside organizations.	January 1, 2007 or as specified in each BMP of MCM 1.
1e-1 Annual Public Meeting	Hold an annual public meeting to distribute educational materials and present an overview of the MS4 program and City's SWPPP	Minimum of once/year, annually through May 31, 2011.
MCM 2 Public Participation and Involvement		
2a-1 Comply with Public Notice Requirements	Notice the annual public meeting in the official newspaper 30 days prior to the meeting date	Annually through May 31, 2011
2b-1 Solicit Public Input and Opinion on the Adequacy of the SWPPP	Hold an annual public meeting and host a web page to solicit public opinion on the SWPPP	Minimum of once/year, annually through 2011.
2c-1 Consider Public Input	Record attendance, keep minutes, record statements, and written comments and document changes made to the SWPPP	Minimum of once/year, annually through 2011.
MCM 3 Illicit Discharge Detection and Elimination		
3a-1 Storm Sewer System Map	Update storm sewer system map, as needed.	Annually 2006 – May 31, 2011
3b-1 Regulatory Control Program	Review existing city ordinances relating to illicit discharges, and develop/adopt an illicit discharge ordinance (if necessary).	Review existing ordinance/Draft ordinance/public comment period (if applicable) in 2006. City Council review/Adopt ordinance in 2007 (if applicable). Annually review existing ordinances or adopt ordinance 2008-May 31, 2011.

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Best Management Practices	Description of BMP & Goal	Schedule
<p>3c-1 Illicit Discharge Detection and Elimination Plan</p>	<p>Utilize volunteer organizations to collect trash and debris from roadsides. Develop and implement a program to detect and reduce non-storm water discharges.</p>	<p>February 1, 2007</p>
<p>3d-1 Public and Employee Illicit Discharge Information Program</p>	<p>Review current illicit discharge educational information/training available to City staff and public.</p>	<p>Annual review in 2006 to May 31, 2011</p>
<p>3e-1 Identification of Non Stormwater Discharges and Flows</p>	<p>The City has identified and evaluated all non-storm water discharges (as defined in Part V.G.3.e) to be insignificant pollutant contributors.</p>	<p>Completed</p>
<p>MCM 4 Construction Site Storm Water Runoff Control</p>		
<p>4a-1 Ordinance or other Regulatory Mechanism</p>	<p>Review current permit stipulations/City codes relating to project specific erosion and sediment control (update as necessary).</p>	<p>Review and add additional requirements (if applicable) by January 1, 2007. Implement permit requirements in 2007 to May 31, 2011.</p>
<p>4b-1, 4c-1 Construction Site Implementation of Erosion and Sediment Control BMP's: Waste Controls for Construction Site Operators</p>	<p>Construction site operators must conform to NPDES Phase II, watershed district, and City ordinances pertaining to erosion and sediment controls and waste controls.</p>	<p>Review and add additional requirements (if applicable) by January 1, 2007. Implement permit requirements by February 1, 2007 to May 31, 2011.</p>
<p>4d-1 Procedure for Site Plan Review</p>	<p>Every applicant for a City permit to allow land disturbing activities must submit a project specific stormwater management plan (if applicable) and/or erosion control plan to the City.</p>	<p>Continue in 2006; monitor throughout May 31, 2011.</p>
<p>4e-1 Establishment of Procedures for the Receipt and Consideration of Reports of Stormwater Noncompliance</p>	<p>Provide a phone number, website, and point of contact for the public to report storm water pollution issues. Staff procedures for stormwater non-compliance are defined in BMP summary sheet 4e-1.</p>	<p>Implement by January 1, 2007; evaluate and update as needed in 2008 through May 31, 2011.</p>
<p>4f-1 Establishment of Procedures for Site Inspections and Enforcement</p>	<p>All erosion control inspections, violations, and remedial actions taken by the City will comply with NPDES Phase II construction permit guidelines. New City staff will be provided erosion control training within 3 years of the individual's hire date.</p>	<p>Review and revise (if necessary) current inspection and enforcement procedures in 2007. Annually update training records through May 31, 2011.</p>
<p>MCM 5 Post Construction Storm Water Management Measures</p>		
<p>5a-1 Development and Implementation of Structural and/or Non-Structural BMP's</p>	<p>The City will evaluate all structural and non-structural BMP's during the plan review process for the potential of new and/or revised BMP's. The City will also actively look for non-structural opportunities where prudent and feasible.</p>	<p>Begin evaluation January 1, 2007, annually through May 31, 2011.</p>

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Best Management Practices	Description of BMP & Goal	Schedule
<p>5b-1 Regulatory Mechanism to Address Post Construction Runoff from New Development and Redevelopment</p>	<p>The City will continue to inspect and maintain all storm water management facilities as described within the Comprehensive Storm Water Management Plan and applicable City codes.</p>	<p>Continue in 2006 and update as needed 2007 to May 31, 2011</p>
<p>5c-1 Long-term Operation and Maintenance of BMP's</p>	<p>The City will continue to annually inspect a minimum of 20% of all its MS4 outfalls, sediment basins, and ponds, then evaluate and record the number of proposed maintenance projects and successful funding of each project (if applicable). Success of this BMP is defined as achieving the measurable goals of minimum control measure 6.</p>	<p>Continue in 2006 to May 31, 2011</p>
<p>MCM 6 Pollution Prevention/Good Housekeeping Measures</p>		
<p>6a-1 Municipal Operations and Maintenance Program</p>	<p>Develop and implement a pollution prevention operations & maintenance schedule consistent with the BMPs detailed in this permit and minimum control measure #6.</p>	<p>Implement by February 1, 2007; Implement by April 1, 2007; annually evaluate and update as needed 2007 – May 31, 2011.</p>
<p>6a-2 Street Sweeping Program</p>	<p>Street sweep once annually. Record the annual number of times streets are brush swept as well as document any additional activities that were undertaken regarding this program</p>	<p>Sweep once per year; record annually 2006- May 31, 2011.</p>
<p>6b-2 Annual Inspection of All Structural Pollution Control Devices</p>	<p>Inspect and document all structural pollution control devices a minimum of once per year.</p>	<p>Minimum of once/year, annually through May 31, 2011.</p>
<p>6b-3 Inspection of a Minimum of 20% of the MS4 Outfalls, Sediment Basins and Ponds Each Year on a Rotating Basis.</p>	<p>The City will inspect a minimum of 20% each year and record the number of outfalls inspected, and rate the condition of outfalls and ponds.</p>	<p>Inspect a minimum of 20% per year. Begin recording inspections in 2006, and continue through May 31, 2011 or until 100% complete prior to May 31, 2011.</p>
<p>6b-4 Annual Inspection of All Exposed Stockpile, Storage, and Material Handling Areas.</p>	<p>Locate and inspect all exposed stockpile, storage and material handling areas located on City-owned properties, record inspections, correct and document all remedial actions a minimum of once per year.</p>	<p>Continue annually through May 31, 2011.</p>
<p>6b-5 Inspection Follow-up, Including the Determination of Whether Repair, Replacement, or Maintenance Measures are Necessary and the Implementation of the Corrective Measures.</p>	<p>Repair, replacement, and/or maintenance completed will be documented and recorded within the City's SWPPP annually.</p>	<p>Annually update records in 2006 to May 31, 2011.</p>
<p>6b-6 Record Reporting and Retention of All Inspections and Responses to the Inspections</p>	<p>The City will record the number of inspection record requests and distributed materials.</p>	<p>Minimum of one/year, annually through May 31, 2011.</p>
<p>6b-7 Evaluation of Inspection Frequency</p>	<p>Record retention of inspection results and maintenance performed or recommended. The frequency of inspections may be adjusted after 2 years at the discretion of the City engineer.</p>	<p>Minimum of one/year, annually through May 31, 2011.</p>

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Best Management Practices	Description of BMP & Goal	Schedule
<p>6b-8 Landscaping & Lawn Care Practices Review</p>	<p>Continue to evaluate current practices of fertilizer, pesticide, and herbicide application, mowing operations, grass clipping collection, mulching, and composting.</p>	<p>Minimum of one/year, annually through May 31, 2011.</p>
<p>6b-9 Road Salt Application Review</p>	<p>Continue to evaluate current practices of road salt applications, alternative products, calibration of equipment, inspection of vehicles and staff training.</p>	<p>Minimum of one/year, annually through May 31, 2011.</p>
<p>Additional BMP's</p>		
<p>7 Evaluation of Potential Storm Water Infiltration Projects for Impacts within Source Water Protection Areas</p>	<p>The City will adopt and implement the Minnesota Department of Health's "Evaluating Proposed Storm Water Infiltration Projects in Vulnerable Wellhead Protection Areas" (Draft-July 19, 2006)</p>	<p>Implement prior to January 1, 2007</p>

V. ANNUAL REPORT

An annual report will be prepared and submitted to the MPCA prior to June 30 of each year from 2006 through 2011. This annual report will summarize the following:

A. Status of Compliance With Permit Conditions

The annual report will contain an assessment of the appropriateness of the BMPs and progress toward achieving the identified measurable goals for each of the minimum control measures. This assessment will be based on results collected and analyzed, inspection findings, and public input received during the reporting period.

B. Work Plan

The annual report will contain a list of storm water activities that are planning to be undertaken in the next reporting cycle.

C. Modifications to the SWPPP

The annual report will identify changes to BMPs or measurable goals for any of the minimum control measures.

D. Notice of Coordinated Activities

A notice will be included in the annual report for any portions of the permit for which a government entity or organization outside of the MS4 is being utilized to fulfill any BMP contained in the SWPPP.