Minnehaha Creek Watershed District

Improving Quality of Water, Quality of Life

2005 MCWD Annual Report and Storm Water Pollution Prevention Program Summary

PREPARED BY: WENCK ASSOCIATES, INC.
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Minnesota.

Date:_____

_____

Rebecca A. Kluckhohn Registration No: 42013

2005 Minnehaha Creek Watershed District
Annual Report and Storm Water Pollution Prevention Program Summary

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2005 Minnehaha Creek Watershed District
Annual Report and Storm Water Pollution Prevention Program Summary

1. Introduction

This report has been prepared to satisfy the annual reporting requirements of the National Pollutant Discharge Elimination System, Phase II rules, emanating from the Clean Water Act legislation of 1972. It also is intended to satisfy the annual reporting requirements set forth in Minnesota Statutes Chapter 103D.351, which requires watershed districts to file an annual report with the Board of Soil and Water Resources.

1.1. National Pollutant Discharge Elimination System – Phase II Annual Report

Prior to 1990, NPDES did not directly address non-point sources of pollutants. The focus of implementing the federal requirements was point-source discharges of wastewater and industrial process water. In 1990, US EPA promulgated rules to include regulation of non-point source discharges from large municipal separate storm sewer systems (MS4s). The Phase I rules required storm water systems permits in large cities like Duluth, St. Paul and Minneapolis. In 2002, the Phase II rules expanded federal regulation to include small MS4s, after a US EPA study concluded continued degradation of the nations waters.

In early 2003, MCWD submitted an application as a regulated MS4 under the Phase II rules, along with a Storm Water Pollution Prevention Program (SWPPP). MCWD is a regulated MS4 under the Phase II rules because the District is the drainage authority for eight public drainage systems. These drainage systems are county and judicial ditches. A number of other Phase II MS4s storm sewers and conveyances discharge into these systems. See Figure No. 1 for the location of the eight public drainage systems.

The Phase II requirements call for an annual summary report on progress toward implementing the provisions of the SWPPP, including any proposed revisions. The first (2003) annual report was submitted in March 2004. This report satisfies the annual report requirements and has been submitted before the June 30th deadline of 2006.

1.2. Minnesota Statutes Chapter 103D.351 Annual Report

The Minnesota Statutes require watershed districts to prepare and file an annual report with the Board of Soil and Water Resources. This annual report is a summary of MCWD financial activity (See Section 9), projects and plans for the coming year (See Section 8 for 2005 activities) and satisfies the requirements of Minnesota Statutes Chapter 103D.351.

2. Summary of Storm Water Pollution Prevention Program and Planned Best Management Practices

The MCWD SWPPP is encompassed in the Notice of Intent and the Phase II MS4 permit application submitted by MCWD in 2003. These documents are included as Appendix 1. An excerpted summary of the SWPPP follows:

"The Minnehaha Creek Watershed District SWPPP is encompassed by the following Minnehaha Creek Watershed District documents:

- ***Water Resources Management Plan, January 1997***
- ***Operations and Maintenance Manual, November 2000***
- ***Ditch Records and Policy Considerations, January 2003***
- ***MCWD Rules, published in 1974 and as amended from time to time***

The Water Resources Management Plan establishes District goals and policies related to management of runoff and protection of water quality, erosion and sedimentation control, floodplain management, management of dredging projects, management of projects in protected waters, Best Management Practices, recreation and fish and wildlife, enhancement of public participation, information and education, public ditch systems, groundwater, and wetlands. It provides an assessment of problems and an implementation program.

The Operations and Maintenance Manual establishes inspection and maintenance procedures for District facilities and ditches.

The Ditch Records and Policy Considerations report includes maps and descriptions of the ditches under District authority.

The District Rules establish requirements for permits for erosion control (Rule B), storm water management (Rule N), wetland protection (Rule D), shoreline alteration (Rule F), and others. Applicable BMPs are summarized in the sheets attached to the General Storm Water Permit Application for Small Municipal Separate Storm Sewer Systems (MS4s)."

3. Summary of 2005 Goals

The goals established by MCWD are described in the 2003 SWPPP contained in Appendix 1. For convenience, Table No. 1 is a one-page summary of the SWPPP goals and progress.

4. Actions Taken in 2005 and Best Management Practices Implementation Progress

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

In 2005, MCWD published four editions of the WaterPro Newsletter. One edition highlighted the use of Low Impact Development (LID) as an alternative to other storm water treatment techniques. The District also issued eleven press releases concerning District activities. The MCWD has sent out 26 electronic newsletter posts. The recently overhauled and improved MCWD web site was updated generally on a weekly basis to include current meeting information, meeting minutes, hydrologic data, rule revision activity, project progress reports and general news items.

MCWD developed a strategic plan for communications in 2003, aimed at image recognition and public education concerning water resources management. The Board of Managers approved the strategic communications plan on October 16, 2003. Implementation of the plan continued in 2005. The strategic communications plan is available for review at the MCWD office.

MCWD participated in the following water related events in 2005:

- 4.1.1 MCWD issued a news release about Hydrodata grades for area lakes and received quite a bit of press with the following media: Fox TV, KARE 11 TV (twice), MPR, WCCO-AM, and various community newspapers.
- 4.1.2 Major articles were published on the MCWD/USACE project on Minnehaha Creek, in newspapers including the Southwest Journal, Star Tribune, and Sun Sailor newspapers.

Public Participation and Involvement – Minimum Control Measure No.2

MCWD established the Cynthia Krieg Watershed Stewardship Grant Program in 1999. The grant program is designed to help fund small projects that promote environmental stewardship, in the memory of Cynthia Krieg, who formerly worked for the District in the area of communications and public education. In 2005, four grant applications were approved for a variety of projects. One project, being conducted by the Minneapolis Park & Recreation Board, is the Stabilization of 237 linear feet of shoreline on the north bank of Minnehaha Creek at Longfellow Gardens. Interpretive panels were installed providing education on shoreline stabilization and native plantings. The total amount of grant funds approved in 2005 was $ 39,138.0 based upon matching funds or in-kind services.

The MCWD Citizens Advisory Committee was active and held six meetings in 2005. MCWD Board members attended approximately one-half of the meetings. The MCWD asked the Citizens Advisory Committee to participate in project development, budget review and other functions.

The MCWD held 46 other public meetings in 2005, including 34 regular Board Meetings and 12 Board Workshops. The meetings were noticed to the public in advance. Agendas and minutes of the public meetings were published on the MCWD web page.

The District in 2005 undertook a partnership with the United States Army Corps of Engineers to develop a large-scale, long-term Vision for Minnehaha Creek to serve as guidance for organizations that share Creek corridor management responsibilities. A Citizen Advisory Committee of community representatives and a Technical Advisory Committee of agency representatives through a lengthy community input process developed a common vision and management recommendations.

The 2005 MCWD *Minnehaha Creek Visioning Partnership Final Report* presents the results of that process and summarizes the Partnership's recommendations for future Creek management. Erosion control and support of aquatic life were overall the highest ranked priorities for improvement. However, when considered reach-by-reach, support and maintenance of recreation were the highest priority for the reaches upstream of the Browndale Dam, followed by improvement of aquatic life and erosion control. Erosion control and stream bank stabilization was the highest priority for the reach downstream of the Browndale Dam. The Partnership recommended the District consider bioengineered stabilization techniques over hard armoring where possible, and that habitat improvement be focused on the management of riparian vegetation and retention of large woody debris rather than on in-stream habitat management. The Partnership also recommended that water quality be improved through the reduction of peak stormwater flows; pretreatment of discharges; application of BMPs and good housekeeping practices in the sub watershed; and repair of existing erosion.

An important part of the visioning process was the discussion of several stream flow management scenarios developed by the Corps to model what would happen with changes to the operation of the Grays Bay dam. The dam is managed to discharge water from Lake Minnetonka into the Creek only when the DNR-established runout elevation of the lake is exceeded. During dry periods, lake level falls and there is minimal discharge; flow in the creek falls to minimal flow-related aquatic habitat conditions and canoeing is not possible. The Corps developed a number of scenarios that would provide targeted releases for recreation or habitat purposes, and then modeled the resulting impact on water level in Lake Minnetonka; the percent of time creek flow fell within optimal conditions for aquatic habitat and recreation; the percent of time potentially erosive flows could be expected; and resulting estimated water quality. Each scenario attempted to balance these often-competing interests; in the end, the Partnership recommended that further study be completed to find a way to optimize and balance year round minimum flows and moderated extreme flows with recreational and lake uses.

MCWD was active in a national program called NEMO (Non-point source Education for Municipal Officials) again in 2005. The District held workshops conducted cooperatively with MPCA, to educate public officials, developers and municipal staff on construction site erosion control techniques. Model erosion control ordinances were also developed for use by municipal planners and fact sheets were prepared on vegetated buffer designs for wetlands, lakes and streams. As part of the program, MCWD completed eight NEMO presentations in the District. Three were at Government Training Service workshops. Three were conducted before the Cities of Shorewood, Tonka Bay, and Medina. The Northwest Hennepin League of Municipalities participated in one presentation and the AMC (Association of Minnesota Counties also viewed a presentation.

4.2. Illicit Discharge Detection and Elimination – Minimum Control Measure No. 3

MCWD is the regulated NPDES, Phase II MS4 for eight public drainage systems (county and/or judicial ditches) that exist in the watershed. During 2003, the available records from Hennepin and Carver Counties were compiled and converted into electronic form. This was the first step in developing policy and management strategies for the public drainage systems. A report was prepared in January 2003, including a GIS database of the ditch records and policy discussion recommendations (Figure No. 1 shows the location of the ditches).

MCWD has monitored lake water quality, stream flow and quality, precipitation and other hydrologic parameters beginning in 1968. In 1997, the monitoring program was coordinated with other agencies collecting monitoring data within the District. The program was expanded and continued in 2002 and 2003 to include more monitoring locations and additional automatic monitoring equipment. The District Staff published an electronic data report this year, including water quality grades for major lakes and streams. The report contains a calculation of annual runoff, flow, pollutant

loads and precipitation. The report is published annually and is made available each year on the MCWD web page.

In 2005, MCWD conducted weekly monitoring of seven sites along Minnehaha Creek has indicated a large increase of *E. Coli* bacterial concentrations from Lake Minnetonka to Minnehaha Falls. There is also evidence of these concentrations decreasing due to dilution in both Meadowbrook Lake and Lake Hiawatha. Concentrations of *E. Coli* begin to rise again after passing through these lakes. Additional detail is given in the 2004 Hydrodata Report. Possible sources of *E. Coli* include i) improper sanitary sewer connections with the stormwater sewer, ii) sanitary sewer leaks, iii) surface sources of human/animal fecal matter draining into the stormwater sewer system.

The first step to determine sources of this problem is to narrow down the three source possibilities. Optical brighteners (OBs) have been used as a tracer to determine the source of sewer inputs in several studies across the nation. OBs are dyes added to detergents to enhance the "brightness" of fabrics. When help under a UV light, OBs fluoresce. In our study, dye-free cloth is placed into a mesh cage and is placed in a stream or suspended into a storm drain using fishing line (Figure D.5). After a week the sample is retrieved, dried, and examined under UV light for fluorescence. If a sample is positive (i.e., it glows), we re-test the location to confirm. In fall 2005, District staff began to deploy sampling equipment at several locations along Minnehaha Creek. Initial results showed no evidence of OBs. We then proceeded to hang equipment into several storm drains in the Minneapolis stretch of Minnehaha Creek; winter set in before we were able to resolve logistical problems. We will continue the project in spring 2006.

4.3. Construction Site Storm Water Runoff Control – Minimum Control Measure No. 4

Construction site erosion has been considered a major issue in rapidly developing areas and highway projects. The MCWD has seen substantial permit activity for the past five years.

The permitting activity in MCWD for 2005 is summarized below:

Five hundred and seventy eight applications were received, which is down from 675 permits in 2004. Of the 578 permits received, 10 were cancelled and 485 were issued in 2005. MCWD publishes a pamphlet informing the public of the need to acquire permits for certain project activity. The pamphlet is entitled "A Guide to Building or Landscaping near Water Resources – Mandatory Minnehaha Creek Watershed Permits".

Of the total permit applications processed in 2005; approximately 70% required a temporary erosion control plan approval. The District dedicates one full-time compliance officer to coordinate an enforcement program aimed at controlling construction site erosion; two full-time equivalents and two interns are employed in

enforcement. Over 1,300 site inspections were performed during the year, averaging approximately two inspections per project, and averaging about three inspections per temporary erosion control plan processed.

Some compliance inspections revealed erosion issues that could not be resolved on a voluntary basis by the permit applicant. A special committee of the Managers processed these situations. The committee met on five occasions and determined further compliance actions required such as site stabilization, stop work orders, surety bonds for performance and other requirements to bring sites into compliance with the MCWD rules. The committee processed a total of 51 compliance actions (after-the-fact permits) and 60 stop-work orders in 2006.

4.4. Post-Construction Storm Water Management – Minimum Control Measure No. 5

The MCWD rules have required long-term storm water management on new land development sites since 1974. Rule N requires long term controls on storm water volume, runoff rates and water quality impacts to downstream receiving waters. There were no storm water management plans approved under Rule N for the 2005 calendar year.

4.5. Pollution Prevention and Good Housekeeping – Minimum Control Measure No. 6

A number of roundtable discussions were held in 2003 as part of the NEMO program to address pollution prevention opportunities in the District. However, since 2003 one-on-one presentations to individual municipal councils and planning commissions were given instead to minimize costs.

MCWD developed an Operations and Maintenance Manual in November 2000. The manual covers every project completed by MCWD and describes operation and maintenance activities in general throughout the District. The plan is a guide for recommended inspections, maintenance, record keeping and monitoring for approximately 20 projects, monitoring stations and other programs. It includes record drawings of constructed projects; photographs; and copies of maintenance agreements, easements and surveys. The plan includes 700 to 800 hours of inspection, maintenance and reporting activity each year, including:

- Records of inspections performed including; name, date, observations and results;
- Records of repairs performed including costs;
- An annual inspections report; and
- Annual plan updates.

The annual operations and maintenance inspections report is attached as Appendix 2. The report summarizes 2005 activities, which included maintenance dredging and outlet repairs to several of the District's stormwater detention ponds.

4.6. Other BMPs

An NPDES Phase II MS4 report is prepared annually by MCWD beginning in 2003. All records pertaining to the NPDES Phase II permit, including annual reports and correspondence, will be kept at the MCWD office for a minimum of three years beyond expiration of the permit.

4.7. Other Related Activities

4.7.1. Wetland Function and Value Assessment

MCWD completed a District-wide assessment of the functions and values of wetlands in 2003. The assessment data is being used to identify high value wetlands and management criteria needed to protect wetlands as a public water resource. The assessment database has been made available to every city in the District for local water management planning. It is also available for review at the MCWD office.

4.7.2. Rule Making

In 2005, there were no rule changes.

4.7.3. Acquisition of Grants

In 2005, the MCWD received a $75,000 grant for the Police and Lake project.

4.7.4. Awards

There were no awards given in 2005.

4.7.5. Water Quantity and Quality Monitoring

MCWD has conducted routine annual hydrologic monitoring of lakes and streams since 1968. Actual pollutant loads and water budgets are calculated each year along with distribution of results to the public on the MCWD web page. This database is the primary means of determining and assessing water management issues in the District.

4.7.6. Communications

MCWD prepared multiple press releases to local/regional newspapers, and wrote regular articles in local newspapers in 2005. (Details are given in Section 4.1.)

4.7.7. Staffing

MCWD hired 3.5 FTEs during 2005 to replace three departed FTEs. The MCWD employs a total of 9.5TEs.

4.7.8. Minneapolis Water Quality Task Force

MCWD is participating in a multi-governmental unit Task Force established by a City of Minneapolis Council resolution and led by the Mayor of Minneapolis. The City of Minneapolis, Minneapolis Park and Recreation Board, Minnehaha Creek Watershed District and others are examining ways to protect and improve water quality in Minneapolis lakes and Minnehaha Creek. The Task Force meets on an as-needed basis.

4.7.9. Projects Underway in 2005 and 2006

- Gleason Lake Water Quality Improvement Project
- Gideon Glen Water Quality Improvement Project – Wetland Restoration
- Jennings Bay (Painters Creek) Water Quality Improvement Project
- Small Site Restoration on Minnehaha Creek
- Methodist Hospital Creek Restoration
- Stubbs Bay Water Quality Improvement Project
- Land Conservation Program
- Gray's Bay Dam Reconstruction
- Maintenance Program
- Mound Downtown Redevelopment
- Long Lake Downtown Redevelopment

4.7.10. Studies Underway in 2005 and 2006

- Stream Assessment: Study, complete.
- FEMA Mapping: Project (all major MCWD tributaries) initiated with expected submittal in 2006.
- Lake Minnetonka Shoreline Study
- USACE Feasibility Study: Study underway (looking at feasibility of Federal interest in projects within MCWD) with expected completion in 2007.
- Lake Sediment Diatom / Paleo-Limnologic Study. Eight lakes with known impairments or planned water quality improvement projects are being evaluated to determine the pre-settlement phosphorus levels.
- Alum Effectiveness Index. MCWD is working to develop an effectiveness index for use in predicting the potential benefit and longevity of lake alum treatments to reduce internal loading of phosphorus.
- Southdale Watershed Boundary. Recently it was determined that Southdale drains to Minnehaha Creek and therefore should be included within the MWCD boundary. Boundary changes may be pursued in the next few years.

- The USACE modeling to refine dam operating policy for ecological objectives.

4.7.11. Planning Activities Underway in 2005 and 2006

- Comprehensive Water Resources Management Plan: On-going policy formation, goal identification and planning (anticipated completion by 2006).
- Lake Nutrient TMDLs. MCWD is preparing TMDLs for eight lakes under an MPCA grant.
- Pilot NPDES Inspection Program: MCWD is conducting erosion control inspections on behalf of MPCA, under an MPCA grant.

4.8.12 Land Conservation Activities in 2004 and 2005

For the year of 2005, the District Land Conservation Program entered into agreements to acquire fee title interest in three properties totaling approximately 70 acres and conservation easements on an additional 192 acres. As of spring 2006, all of these acquisitions have been completed. Through these efforts, the District has protected 15,440 feet of lakeshore and creek frontage. Upon completion of remaining tasks, the District expects to have leveraged an additional $6.2 million in conservation dollars on top of its expected net expenditures of $1.6 million for these projects.

5. Progress Toward Achieving Goals

The goals set forth in the MCWD NPDES, Phase II permit (Appendix 1), and progress toward those goals are set forth in summary form in Table No. 1. Progress in 2005 is discussed in more detail in Section 4.

6. Recommended Changes to the SWPPP for 2005

6.1. Water Resources Management Plan, January 1997

The Water Resources Management Plan dated January 1997 has been under revision during 2005 with anticipated approval in 2006. The scope for the plan update reflects a substantial revision and focuses on several important elements summarized below:

- The plan maximizes use of the H&H hydrologic and nutrient export models to demonstrate the direct relationship between land uses and increased pollutant export into receiving waters.
- Using PLOAD, the plan demonstrates the efficiency of outcome-based regulation on a major sub-watershed basis to prevent degradation.
- A framework of performance based plan elements, organized by major sub-watershed to achieve established and desired goals, will be the first step to articulating a goal-driven regulatory program.

- Plan is updated to meet the requirement of Minnesota Rules Section 8410, and MS 103.
- A Capital Improvements Plan that addresses benefits and costs on a project life-cycle including operation, maintenance, the time value of money, cash flow and organizational demands.
- Goals that are supported by the MCWD Board, MCWD staff and the public, focused on pollutant export reduction and that are measurable and realistic.
- Extensive public participation in goal development including plan review, a Citizens Advisory Committee, a Technical Advisory Committee, and the Minnehaha Creek Visioning Committee.
- A stand-alone plan for each of eleven sub-watersheds and a Summary Plan for the entire District that is easily made available on the MCWD website.

6.2. Operations and Maintenance Manual, November 2000

The maintenance projects and programs identified in the MCWD Operations and Maintenance Manual are up-to-date through 2000. However, additional projects completed after 2000 are not included in the manual. An updated manual should be incorporated into the SWPPP in the future.

6.3. Public Drainage System Policy

The District will develop management policies and a long-term action plan for the public drainage systems, as recommended in the report entitled **Ditch and Policy Considerations, January 2003**. This will be addressed through the 509 Plan development process.

6.4. Rule Revisions

No MCWD Rule revisions or changes are anticipated for 2006.

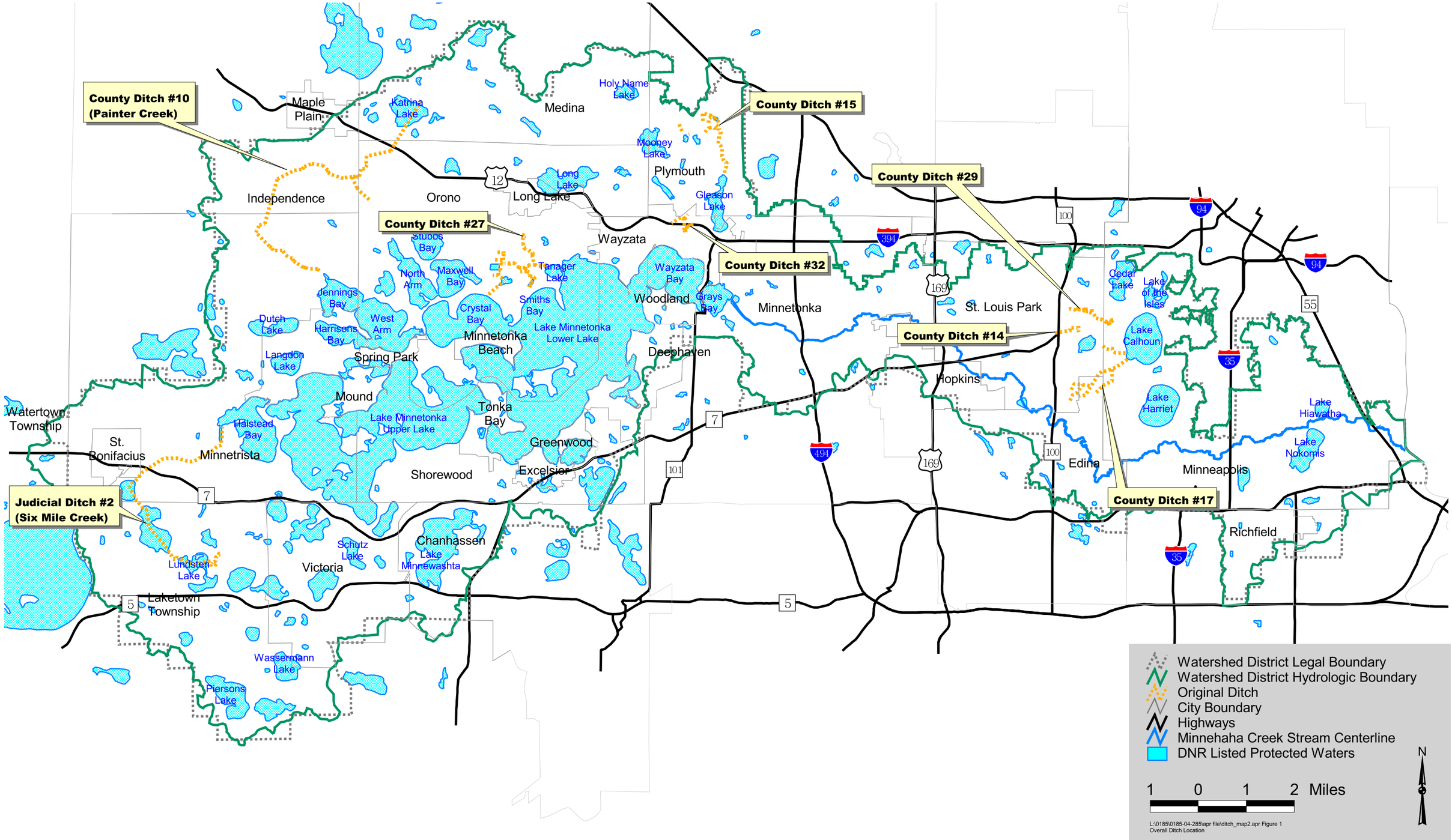
7. MCWD Financial Summary

The 2005 MCWD budget is in summary form in Figure No. 2. A detailed budget is available for public review by contacting the MCWD office.

8. Additional Information

For additional information about MCWD, a list of contacts is included as Table No. 3. Acronyms, abbreviations and definitions are included in Table No. 4.

Figures



MINNEHAHA CREEK WATERSHED DISTRICT

Overall Ditch Location

Wenck Associates, Inc.
Environmental Engineers
1800 Pioneer Creek Center P.O. Box 249
Maple Plain, MN 55359-0249

DEC 2002

Figure 1

Figure No. 2 Financial Summary

The Minnehaha Creek Watershed District is funded by an ad valorem tax based on property values. The operating budget and tax levies are approved after public notice and hearing.

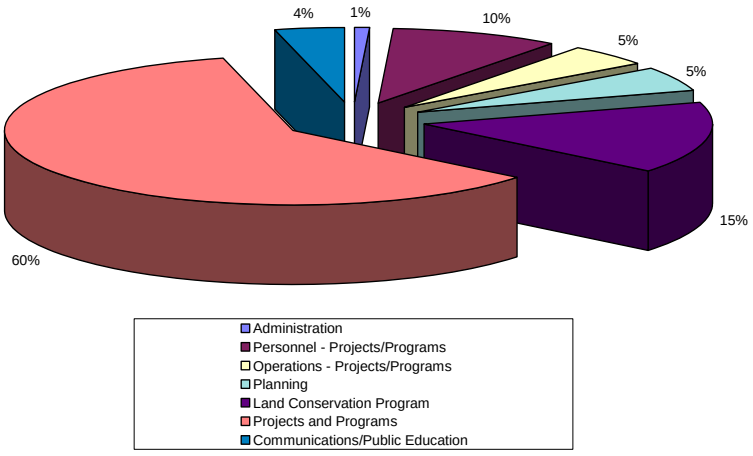
Planned 2005 Revenue

2005 Tax Levy – Hennepin and Carver	**$3,521,768**

2005 Budget

Administration	$57,667
Personnel - Projects/Programs	$657,566
Operations - Projects/Programs	$310,279
Planning	$374,203
Land Conservation Program	$1,059,643
Projects and Programs	$4,167,487
Communications/Public Education	$260,265
Total 2005 Budget	**$6,887,110**

2005 MCWD Budget Allocations



Tables

Table No. 1 Summary of SWPPP Goals and Progress

Minimum Control Measure No.	Minimum Control Measure Description	BMP Description	Goal	Progress 2005	Person or Department Responsibility
1	Public Education and Outreach	Publish MCWD WaterPro Newsletter	Continue/Increase Distribution	● ◔	Julie Westerlund, Communication
		Maintain MCWD Web Site	Continue/Increase Web Site Visitors	● ◔	Julie Westerlund, Communication
			Update on a Regular Basis	● ◔	
		Hold Water Events		● ◔	Julie Westerlund, Communication
2	Public Participation and Involvement	Cynthia Krieg Watershed Stewardship Grants	Continue Funding	● ◔	Julie Westerlund, Communication
		Citizens Advisory Committee	Consistent Membership	● ◔	Julie Westerlund, Communication
			Regular Meetings	● ◔	
		Technical Advisory Committee	Use on Large Projects	● ◔	Renae Clark, Projects Coordiator/ Technician
		Public Meetings	Hold Twice per Month	● ◔	Eric Evenson, Administrator
3	Illicit Discharge Detection and Elimination	Storm Drain Stenciling	Increase Storm Drains Stenciled	●	
			Informational Pamplet Distribution	●	
		Map of Public Drainage Systems	Complete Using GIS	●	
		Hydrologic Data Monitoring Program	Continue	● ◔	Lorin Hatch, Water Quality Specialist
		Stream Assessment	Complete Minnehaha Creek	●	Mike Wyatt, Planner
			Schedule Bank Failure Repair Projects	◔	Mike Wyatt, Planner
		Review SWPPP and Local Water Plans	Review Available Plans Within 60 Days	● ◔	Mike Wyatt, Planner
		Develop Rule to Disallow Non-Storm Water Discharges	Rule Development 2004	●	
			Rule Adoption 2005	●	
4	Construction Site Storm Water Runoff Control	Permit Requirement Guidance Document	Use by Municipalities	● ◔	Julie Westerlund, Communication
		Tempory Erosion Control Permits	Number of Permits Issued	● ◔	James Wisker, Techician
		Compliance of Temporary Erosion Control Permits	Number of Compliance Actions	● ◔	James Wisker, Techician
5	Post-Construction Storm Water Management	Permit Requirement Guidance Document	Use by Municipalities	● ◔	Julie Westerlund, Communication
		Storm Water Management Permits	Number of Permits Issued	● ◔	James Wisker, Techician
		Maintenance Agreements	Number of Agreements Recorded	● ◔	James Wisker, Techician
		Rule N Revision	Revise Rule N and Implement in 2003	●	
		Compliance Enforcement	Number of Compliance Actions	●	James Wisker, Techician
6	Pollution Prevention and Good Housekeeping	Land Use Roundtables	Consistent and Increasing Attendance	●	Julie Westerlund, Communication
		Implement Operations and Maintenance Plan	Complete Rountine Inspections, Repairs and Annual O&M Report	● ◔	Renae Clark, Project Manager
		Operations and Maintenance Plan Revisions	Include Staff Training Component	◔	Renae Clark Project Manager
			Include NPDES Inspections Component	◔	Renae Clark, Project Manager
			Update Annually	◔	Renae Clark, Project Manager
Other		Annual Report	Complete Annually	●	Renae Clark, Project Manager
		Records Retention	NPDES Records Retained and Available	●	Renae Clark, Project Manager

● Achieved Goal
◔ Planned for 2006
● No Longer Planned

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Table No. 2 List of Contacts

MCWD Board of Managers	County	Office Held
Jim Calkins	Hennepin	President
Pamela Blixt	Hennepin	Vice President
Lee Keeley	Hennepin	Secretary
Dick Miller	Hennepin	Treasurer
Ethel Smith	Hennepin	Manager
Jeff Casale	Carver	Manager
Lance Fisher	Carver	Manager

MCWD Employed Staff

Eric Evenson	Administrator	eevenson@minnehahacreek.org
Renae Clark	Projects Coordiator/ Technician	rclark@minnehahacreek.org
Mike Wyatt	Planner	mwyatt@minnehahacreek.org
James Wisker	Permitting Officer	jwisker@minnehahacreek.org
Charly Wojtysiak	Compliance Officer/ District Technician	cwojtysiak@minnehahacreek.org
Michael Pressman	Land Conservation Specialist	mpressman@minnehaha.org
Julie Westerlund	Communications and Education Manager	jwesterlund@minnehahacreek.org
Lorin Hatch	Water Quality Specialist	lhatch@minnehahacreek.org
Marci Wallingford	Office Administrator	marciw@minnehahacreek.org
Jane Byron	Permitting Technician	jbyron@minnehahacreek.org

MCWD Office

Minnehaha Creek Watershed District
18202 Minnetonka Blvd.
Deephaven, MN 55391

Ph: 952-471-0590 Fax: 952-471-0682
email: admin@minnehahacreek.org
www.minnehahacreek.org

District Engineer

Mike Panzer, PE, PG
Wenck Associates, Inc.
1800 Pioneer Creek Center
Maple Plain, Minnesota 55359
763-479-4207
mpanzer@wenck.com
3202243484@tmomail.net

MCWD Counsel

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Chuck Holtman
Smith parker, LLP
123 North 3rd Street, Suite 808
Minneapolis, Minnesota 55401
612-344-1400
smith@smithparker.com
holtman@smithparker.com

Table No. 3 Acronyms, Abreviations and Definitions

annual report	yearly report required under NPDES Rules or Minnesota Statutes Chapter 103D.351
ASCE	American Society of Civil Engineers
BMP(s)	Best Management Practice(s)
Board of Managers	seven managers appointed to the MCWD Board under Minnesota Statutes Chapter 103D.311
BWSR	Minnesota Board of Soil and Water Resources
CAC	Citizens Advisory Committee
county ditch	drainage system established under Minnesota Statutes Chapter 103E, located in a single county
Ditch Records	available documents describing the location, construction, easements and benefitted properties associated with a public drainage system
ditch(es)	drainage system(s) established under Minnesota Statutes Chapter 103E
GIS	geographic information system
HHPLS	Hydrologic, Hydraulic and Pollutant Load Study
judicial ditch	drainage system established under Minnesota Statutes Chapter 103E, located in more than one county
MAWD	Minnesota Association of Watershed Districts
MCWD	Minnehaha Creek Watershed District
MPCA	Minnesota Pollution Control Agency
MS4s	Municipal Separate Storm Sewer Systems
NEMO	Non-point Source Pollution Education for Municipal Official
NPDES	National Pollutant Discharge Elimination System
Phase II MS4s	MS4s regulated by NPDES Phase II Rules
public drainage system	drainage system established under Minnesota Statutes Chapter 103E
Rule B	MCWD Rule for Erosion Control
Rule D	MCWD Rule for Wetland Protection
Rule F	MCWD Rule for Shoreline and Streambank Improvement
Rule N	MCWD Rule for Stormwater Management for Land Development Projects
SWPPP	Storm Water Pollution Prevention Program
TAC	Technical Advisory Committee
US EPA	United States Environmental Protection Agency
Watershed District	special district established under Minnesota Statutes Chapter 103D
XPSWMM	proprietary version of the US EPA Storm and Waste Water Management Model

Notice of Intent
Minnehaha Creek Watershed District
NPDES Phase II Stormwater Management Program

A. Owner

Owner: Minnehaha Creek Watershed District
Address: 18202 Minnetonka Boulevard
Deephaven, MN 55391
County: Hennepin County

B. Contact Person

Eric Evenson, Administrator
Minnehaha Creek Watershed District
18202 Minnetonka Boulevard
Deephaven, MN 55391
(952) 471-0590

Signature: _____

C. Background

The Minnehaha Creek Watershed District (MCWD) is the public ditch authority for eight public ditches. These ditches are regulated as a small MS4 under the NPDES Phase II Stormwater program. A number of other small MS4s, not under the control of the MCWD, drain into the MCWD ditch system. The Minnehaha Creek Watershed District's *Stormwater Pollution Prevention Plan* (SWPPP) is encompassed in the District's *Water Resources Management Plan* and *Operations and Maintenance Manual*.

D. Stormwater Pollution Prevention Program (SWPPP) Summary

The following is a summary of the BMPs determined applicable for each of the six minimum control measures required under the Phase II permit.

a. Minimum Control Measure 1: Public Education and Outreach

i. BMPs
To address minimum control measure 1:
- WaterPro newsletter
- Web site

- Water events

To address minimum control measure 2:

- Provide grants to groups proposing projects and initiatives to protect water quality and promote public awareness of non-point source pollution abatement

To address minimum control measure 3:

- Stormdrain stenciling program

To address minimum control measures 4 and 5:

- Informational pamphlet on District permit requirements

To address minimum control measure 6:

- Land use roundtables with cities

ii. Summary Table
- The attached Table 1 summarizes each educational and outreach BMP and discusses the targeted audience, educational goals, activities used, implementation plans, and performance measures.

iii. Coordination with other local groups:
- MCWD programs make use of non-profit organizations, school districts, cities, and other local groups by providing funding for their educational and public involvement efforts where appropriate, by sharing educational resources, and by working together on educational and demonstration projects when opportunities arise.

iv. Measurable goals:
- Use of grant money
- Number of stormsewer drains stenciled
- Newsletter publication
- Frequency of web-site updates
- Number of pamphlets distributed
- Number of people attending roundtables held
- Number of people attending water event

v. Timeline:
- Continue existing programs as summarized above

vi. Responsible Person: Joanie Ellis

b. Minimum Control Measure 2: Public Participation and Involvement

i. BMPs:
- Citizen Advisory Committee
- Use Technical Advisory Committees on large projects
- Public meetings held twice monthly to solicit comments on permits and other MCWD activities

ii. Measurable goals:
- Active citizen participation in Citizen Advisory Committee
- Use of Technical Committees
- Public meetings held as planned

iii. Timeline
- Continue these current activities

iv. Responsible Person: Joanie Ellis

c. Minimum Control Measure 3: Illicit Discharge Detection and Elimination

i. BMPs:
- Map of ditch system in report *Ditch Records and Policy Considerations*
- Monitoring program will detect illegal discharges and assess discharges from wetlands and riparian areas into open ditches
- Stream assessment project – erosion control
- Review of city SWPPP and Local water management plans that drain into the District's ditch systems
- Develop rule to disallow non-stormwater discharges into the MCWD ditch system

ii. Measurable goals:
- Incorporate ditch maps into GIS system
- Continue monitoring of open ditches
- Complete stream assessment project and erosion control and streambank stabilization measures
- Complete reviews of SWPPP and Water Management plans of MS4s that drain into the MCWD system
- Develop rule disallowing non-stormwater discharges by December 2004

iii. Timeline:
- Continue existing monitoring, stream assessment, and plan review programs

- Develop rule disallowing non-stormwater discharges by December 2004

iv. Responsible Person: Jim Hafner

d. Minimum Control Measure 4: Construction Site Stormwater Runoff Control

i. BMPs:
- Require erosion control permits for sites disturbing greater than 5,000 square feet or 50 cubic yards of soil.
- Compliance enforcement

ii. Measurable goals:
- Number of permits issued,
- Number of compliance issues addressed

iii. Timeline:
- Continue enforcement of existing erosion control permit requirements.
- Continue compliance enforcement program

iv. Responsible Person: Mike Wyatt, Renae Schubert

e. Minimum Control Measure 5: Post-Construction Stormwater Management

i. BMPs:
- Require permanent BMPs for stormwater management for new development and redevelopment of commercial, industrial, multi-unit residential, and road construction of any size and for single family housing subdivisions of greater than 2 acres.
- Require maintenance agreements to be filed of record in the county recorder's office to provide for long term maintenance and preservation of BMPs.
- Revise current rule to require permanent BMPs for stormwater management for single family housing subdivisions of greater than 1 acre.
- Compliance enforcement.

ii. Measurable goals:
- Number of permits issued.
- Number of violations identified.
- Number of maintenance agreements recorded.
- Rule N revised and implemented.

iii. Timeline:
- Continue enforcement of existing stormwater management permit requirements including the requirement for long-term maintenance agreements.
- Continue compliance enforcement program.
- Revise Rule N - Stormwater Management by December 2003.

iv. Responsible Person: Mike Wyatt, Renae Schubert

f. Minimum Control Measure 6: Pollution Prevention and Good Housekeeping

i. BMPs:
- Implement Operations and Maintenance Plan including annual inspections as scheduled.
- Revise existing O & M Plan to include a training component for MCWD Staff.
- Revise existing O & M Plan to include the procedural requirements of the NPDES permit.
- Maintain records of inspection results.

ii. Measurable goals:
- Completion of inspections.
- Completion of training.
- Revision of existing O & M Plan.
- Maintenance of records.

iii. Timeline:
- Training and inspections begin spring 2003.
- Plan revision Dec 2004.

iv. Responsible Person: Jim Hafner

E. Record Retention and Availability

Records relating to this permit application will be kept on file for at least three years following the expiration of the permit. Records will be made available to the public during regular business hours.

F. Annual Report

An annual report summarizing actions taken in the implementation of the SWPPP will be submitted to the Agency by March 10 of each year of the permit term. A public meeting will be held to discuss the annual report prior to submittal to the

Agency. The meeting will be noticed in local newspapers at least 30 days in advance. The report will be submitted to:

MS4 Storm Water Program
MPCA
520 Lafayette Road North
St. Paul, MN 55155-4194

The annual report will assess and summarize compliance with permit terms, appropriateness of BMPs, progress toward meeting the stated goals, any changes to the BMPs or the SWPPP, and actions planned for the next year.

Appendix 1

MCWD SWPPP Notice of Intent and NPDES Phase II Stormwater Management Program

Notice of Intent
Minnehaha Creek Watershed District
NPDES Phase II Stormwater Management Program

A. Owner

Owner: Minnehaha Creek Watershed District
Address: 18202 Minnetonka Boulevard
Deephaven, MN 55391
County: Hennepin County

B. Contact Person

Eric Evenson, Administrator
Minnehaha Creek Watershed District
18202 Minnetonka Boulevard
Deephaven, MN 55391
(952) 471-0590

Signature: _____

C. Background

The Minnehaha Creek Watershed District (MCWD) is the public ditch authority for eight public ditches. These ditches are regulated as a small MS4 under the NPDES Phase II Stormwater program. A number of other small MS4s, not under the control of the MCWD, drain into the MCWD ditch system. The Minnehaha Creek Watershed District's *Stormwater Pollution Prevention Plan* (SWPPP) is encompassed in the District's *Water Resources Management Plan* and *Operations and Maintenance Manual*.

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The following is a summary of the BMPs determined applicable for each of the six minimum control measures required under the Phase II permit.

a. Minimum Control Measure 1: Public Education and Outreach

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- Use of grant money
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- Frequency of web-site updates
- Number of pamphlets distributed
- Number of people attending roundtables held
- Number of people attending water event

v. Timeline:
- Continue existing programs as summarized above

vi. Responsible Person: Joanie Ellis

b. Minimum Control Measure 2: Public Participation and Involvement

i. BMPs:
- Citizen Advisory Committee
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- Public meetings held twice monthly to solicit comments on permits and other MCWD activities

ii. Measurable goals:
- Active citizen participation in Citizen Advisory Committee
- Use of Technical Committees
- Public meetings held as planned

iii. Timeline
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iv. Responsible Person: Jim Hafner

d. Minimum Control Measure 4: Construction Site Stormwater Runoff Control

i. BMPs:
- Require erosion control permits for sites disturbing greater than 5,000 square feet or 50 cubic yards of soil.
- Compliance enforcement

ii. Measurable goals:
- Number of permits issued,
- Number of compliance issues addressed

iii. Timeline:
- Continue enforcement of existing erosion control permit requirements.
- Continue compliance enforcement program

iv. Responsible Person: Mike Wyatt, Renae Schubert

e. Minimum Control Measure 5: Post-Construction Stormwater Management

i. BMPs:
- Require permanent BMPs for stormwater management for new development and redevelopment of commercial, industrial, multi-unit residential, and road construction of any size and for single family housing subdivisions of greater than 2 acres.
- Require maintenance agreements to be filed of record in the county recorder's office to provide for long term maintenance and preservation of BMPs.
- Revise current rule to require permanent BMPs for stormwater management for single family housing subdivisions of greater than 1 acre.
- Compliance enforcement.

ii. Measurable goals:
- Number of permits issued.
- Number of violations identified.
- Number of maintenance agreements recorded.
- Rule N revised and implemented.

iii. Timeline:
- Continue enforcement of existing stormwater management permit requirements including the requirement for long-term maintenance agreements.
- Continue compliance enforcement program.
- Revise Rule N - Stormwater Management by December 2003.

iv. Responsible Person: Mike Wyatt, Renae Schubert

f. Minimum Control Measure 6: Pollution Prevention and Good Housekeeping

i. BMPs:
- Implement Operations and Maintenance Plan including annual inspections as scheduled.
- Revise existing O & M Plan to include a training component for MCWD Staff.
- Revise existing O & M Plan to include the procedural requirements of the NPDES permit.
- Maintain records of inspection results.

ii. Measurable goals:
- Completion of inspections.
- Completion of training.
- Revision of existing O & M Plan.
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Appendix 2

MCWD 2005 Annual Operations and Maintenance Report

Minnehaha Creek Watershed District

Improving Quality of Water, Quality of Life

MEMORANDUM

Date: October 28, 2005

0991-00

To: MCWD Board of Managers

From: Jim Hafner

RE: 2005 Annual Operations and Maintenance Report

The Minnehaha Creek Watershed District (MCWD) has a variety of facilities for which they have assumed a responsibility to perform regular maintenance. These facilities include:

- Regional detention ponds, including riparian vegetation
- Restored wetland systems
- Canoe landings on Minnehaha Creek
- Grays Bay dam

Inspections of all facilities are conducted twice per year, in the spring after snow melt/ice out and in the fall after leaf off. A standard form is used to record observations at the time of each inspection at each facility. This record is maintained at the MCWD office.

In January and February 2004 four of the regional ponds were dredged to remove accumulated sediment. The table below itemizes the volumes removed from each of the ponds.

	Long Lake	Twin Lakes	Cedar Meadows	SW Calhoun
Original Wet Volume (cy)	4,356	5,808	18,069	26,781
Volume Excavated (cy)	2,410	3,403	2,750	3,120
Volume Reduction	55%	59%	29%	30%
Cost of Excavation	$16,578	$19,945	$41,574	$57,417
TP Removed	608	1,833	1,949	2,654

These ponds are scheduled to be checked for sediment accumulation in 2006. This adheres to the District policy of checking sediment two years after new construction or two years after the last maintenance

Work on refurbishing the vegetation at these four sites began in late summer 2004 and was completed in late summer 2005. The maintenance portion of the plan will begin in 2006.

Washouts at the outlet weirs of the County Road Six and Deer Hill Road ponds were completed over the winter of 2004/05. Final clean-up and turf restoration was completed in May/June 2005.

All canoe landings were inspected twice in 2005. They are all in operable condition. Minor repairs are anticipated in early 2006 on such things as protruding nails and loose boards. While these structures are sound functionally the boards are showing wear and tear from years of use. They do not pose any safety hazards but this condition should be monitored for possible repairs in the next few years.

Maintenance burns/mowing are scheduled to be performed in fall at the Nokomis wetland/pond sites to maintain the health and vigor of the plants.

The tainter gates at Grays Bay dam were fully operable in 2005. They are scheduled for minor maintenance – change oil in crankcase and grease wheel shafts – in the spring of 2006.

The Independence wetland restoration site was monitored in 2005 as scheduled with photos being taken at 12 observation points and added to the record. A maintenance contract was signed with Minnesota Native Landscapes and covers maintenance through 2008. A burn is planned to control invading reed canary grass yet this fall. Mowing took place during the summer.

The weir at the outlet to Lake Nokomis is now fully operable and maintenance responsibility has been turned over to the City of Minneapolis, Public Works Department as of June 2004. This arrangement was part of the cooperative agreement when the structure was built. Adjustments are planned to the equation that triggers the automatic function of the weir. This will cause the weir to raise at a lower water level/pressure preventing water from entering Nokomis during high stormwater flows in the creek.

Pond outlets appear to be functioning normally and in good condition with the following exceptions:

1. Outlet of Long Lake Park north pond. Debris and vegetation are clogging the outlet. The city maintenance department has been contacted to clean up.
2. There appears to be some leakage around the north end of the outlet weir at the Twin Lakes Park pond. This should be inspected by our engineer to determine if it requires repair.
3. The same condition as #2 exists on the west side of the outlet weir of Painter Marsh. Again, our engineer should inspect for possible repair.
4. A sediment delta is forming at the inlet of the Twin Lakes Park pond. This pond is scheduled to be checked in spring 2006 for sediment accumulation.

The Gleason North pond likely needs maintenance. This will be inspected and performed as needed as part of the pond expansion scheduled for this location in winter 2005/06.

The following ponds are being checked in Oct./Nov. 2005 by Wenck Associates to determine sediment accumulation: Long Lake Park - both ponds, Gleason north and the two ponds down stream of Gleason Lake, Nokomis ponds (Knolls, Amelia and Gateway), and County Road 6. If excavation is needed this work would become an O&M project for winter 2006/07.

Repairs were conducted on stormwater outfalls at 12 locations on Minnehaha Creek between 54th and Xerxes in Minneapolis and 494 and Minnetonka Blvd. in Minnetonka. This work was performed on a quasi design-build approach. With no formal design, bids were obtained and the work was split between three contractors. With some minor adjustments from lessons learned on these sites this approach should continue to be used for future work. It represents a significant cost savings for select projects while allowing control for the desired outcome.

As a follow up, live stakes of willow and similar woody plants will be incorporated to those creek sites during the month of November 2005. This will provide screening of the rip rap and add bank stability.