

MS4 Annual Report

(Due by March 31, 2014)

Please use this template to assist in compiling information for the annual report. Use of this template is optional. Please refer to the permit language for the information minimally required to be submitted in the reporting year. If you have any questions, please contact Bryan Hartsook at (262) 574-2129 or by email at Bryan.Hartsook@wisconsin.gov. Please submit a signed copy of the annual report and any attachments to my attention at the Waukesha Service Center: 141 NW Barstow St., Rm 180, Waukesha, WI 53188

** ELECTRONIC SUBMITTALS ARE ACCEPTABLE **

Municipality: Milwaukee County		Reporting Year: 2013	
Name of Permit Group (if applicable): Menomonee River Watershed Permittees	WPDES Permit No. WI-S050156-1	Facility ID No. (FIN):	
Contact Information:			
Tim Detzer	Title: Managing Environmental Engineer		
Mailing Address: 2711 W. Wells Street #213	City: Milwaukee	State: WI	Postal Code 53208
E-mail Address: timothy.detzer@milwaukeecountywi.com	Telephone No: (414) 278-2988		
Section I. Summarize program activities implemented during the reporting year to maintain compliance with the six minimum control measures identified in the permit. Please include the management practice, individual or department responsible, measurable goals, and activities planned for next year. Amendments to the planned activities and/or changes to measurable goals should also be identified. <i>Add rows or attach additional sheets as needed</i>			
A. PUBLIC INVOLVEMENT, EDUCATION, AND OUTREACH <u>BMP Description:</u> February 27, 2013 and March 21, 2013 Milwaukee County engineer Sean Hayes presented on the County's Sports Complex pervious pavement project to the Root River Watershed Restoration Plan Stakeholders and the S.E. Wisconsin Clean Water Network. May 14, 2013 and August 25, 2013 Milwaukee County engineer Sean Hayes presented "Practical Steps in Pursuit of Sustainability—Milwaukee County Steps Forward." This presentation focused largely on Milwaukee County's stormwater BMP design guide for parking lots. The presentation was given at the 2013 American Public Works Association Sustainability in Public Works Conference in San Diego and later at the 2013 International Public Works Congress in Chicago. September 5, 2013 Milwaukee County hosted a Permeable Pavement Workshop at the Sports Complex in Franklin. The workshop was conducted in conjunction with a green infrastructure promotion project, in which Milwaukee County is a partner along with the MMSD and 1,000 Friends of Wisconsin.			

October 9, 2013

Milwaukee County Environmental Services hosted a daylong tour of six green infrastructure projects located in Milwaukee County. Speakers and guides included staff from WDNR, Urban Ecology Center, the Rock, and Milwaukee County Parks, and Milwaukee County Environmental Services.

Menomonee River Public Education Committee

In 2013 Milwaukee County made a \$1,600.00 contribution to support a regional public education program spearheaded by the Menomonee River Group Public Education Committee. These funds were used to develop and implement a multi-media public education program, the *Respect our Waters* campaign.

Responsible Dept./Person:

Department of Administrative Services, Facilities Management Division, Architecture, Engineering & Environmental Services Section.

Measurable Goal(s):

Please see above section *BMP Description*.

Progress Made Towards Achieving Goal(s):

Please see above section *BMP Description*.

Planned Activities for Next Reporting Year:

Milwaukee County intends to continue support the *Respect Our Waters* campaign, which has been extended for another two years through an Urban Nonpoint Source grant.

Program Modifications or Changes to Measurable Goal(s):

NA

B. ILLICIT DISCHARGE DETECTION AND ELIMINATIONScreening Strategy (priority areas identified in plan?):

Milwaukee County's strategy for detecting illicit discharges and connections is described by the following activities:

1. maintenance and upgrades at County facilities
2. development and implementation of SWPPPs at applicable facilities
3. field screening of major outfalls
4. tracking and containing spills
5. regular maintenance of storm sewers
6. continued refinement of the County's stormwater map
7. education of County employees
8. Milwaukee County's CMOM Program
9. targeted illicit connection program

Number of Outfalls Screened, Parameters Used, Detection Limits:

Milwaukee County screened 13 outfalls in 2013.

Milwaukee River Keeper and Great Lakes Water Institute identified these 13 outfalls as having high bacterial counts, human fecal matter or both.

The outfalls were screened during dry weather in accordance with WDNRs Guidance #3800-2012-1 to determine if any non-stormwater flow was present. The outfalls were visited in August and October of 2013. If flow was present, samples were taken and analyzed for total chlorine, pH, total copper, total phenols, and detergents.

As a result of the field location of the outfalls, the ownership of many of these was questioned. After meeting with Milwaukee River Keeper it was determined that many of the outfalls sampled by them were not owned by Milwaukee County. The results of the field screenings are located in Attachment 1.

Number of Illicit Discharges / Illegal Connections Detected (identify outfall ID numbers):

No illicit discharges or illegal connections were discovered in 2013.

Number of Complaints Received and Summarize Result(s) of Follow-Up (include description of sewershed investigation):

There were no complaints received in regards to stormwater in 2013.

Screening Strategy for Next Reporting Year (identify priority areas / basins and outfall ID's):

The standard screening strategy as outline above will continue in 2013.

Milwaukee County will continue its investigation into sources of human fecal contamination in stormwater outfalls owned by Milwaukee County.

Storm Sewer Map Updated? (summarize changes identifying basins and outfall ID's):

No changes were made to the storm sewer map in 2013.

C. CONSTRUCTION SITE POLLUTANT CONTROLTarget Number of Inspections (measurable goal, can be represented as percentage of permits issued):

Milwaukee County does not issue construction site erosion control permits, but defers to municipalities within Milwaukee County to write and enforce ordinances. Milwaukee County conforms to local municipal erosion control ordinances on all applicable construction sites.

Number of Permit Applications Received / Number of Permits Issued:

NA

Individual(s) Responsible for Plan Review, Inspection, and Enforcement Procedures:

NA

Number of Inspections Completed:

NA

Number of Enforcement Actions and Description:

NA

Changes in Inspection and /or Enforcement Strategy and Protocol:

NA

D. POST-CONSTRUCTION STORM WATER MANAGEMENTNumber of Storm Water Management Plans Reviewed:

Milwaukee County reviews stormwater management plans for development on and connections to County stormwater structures within County Trunk Highways. These plans are also reviewed by the local municipality. There were six plans reviewed in 2013.

Approved or Scheduled Ordinance Updates:

None. Milwaukee County defers to local municipalities within the County to write and enforce post-construction storm water management ordinances.

Number of Redevelopment Sites Reviewed:

There were six redevelopment sites reviewed in 2013.

Are you Documenting TSS Reductions Achieved on Redeveloped Sites? (for later inclusion in MS4 pollutant loading analysis):

Milwaukee County will not be taking TSS reduction credit for private redevelopment along County Trunk Highways.

Inspection and/or Scheduled Maintenance of Facilities Where a Long-Term Maintenance Agreement was Recorded:

None.

E. POLLUTION PREVENTIONEstimate quantity of Street Sweepings and Catch Basin Cleanings Collected:

Milwaukee County has collected approximately 470 cubic yards of material through street sweeping and 18 cubic yards from catch basin cleaning. Please see Attachment 2.

Summarize Findings of Municipal Yard Inspection(s), SWPPP Implemented and Up to Date?:

All Stormwater Pollution Prevention Plans are up to date with the exception of the Fleet Management Facility on Watertown Plank Road at Swan Boulevard. This site is currently undergoing reconstruction as part of the Zoo Interchange Free redesign. A new Storm Water Pollution Prevention Plan will need to be developed for this site.

Updates to Yard Waste Collection:

Milwaukee County does not collect residential yard waste. Plant material from parks and County facilities is collected and reused. Woody materials are chipped for mulch and grass clippings and leaves are left in place except on golf courses where they are moved to a different location.

Winter Road Maintenance Program (description and estimate quantity of anti-icing or deicing materials used):

	State	County	Zoo	
Salt	52235	7172	300	tons
Liquid Calcium	77214	2750		gallons
Dry Calcium	32.73		0.3	tons
Sand	44			tons
Salt Brine	50280	800		gallons

Planned Activities for Next Reporting Year:

Milwaukee County is designing a catch basin dewatering system to dewater material removed from catch basins prior to disposal at a licensed landfill. The intent is to lower the cost of landfilling the material and improve collection efficiency in able to clean more catch basins within existing budgets. The County's prior facility is no longer available due to the relocation of Swan Boulevard.

A Storm Water Pollution Prevention Plan for Milwaukee County's redesigned Fleet Management Facility will have to be developed.

Program Modifications or Changes:

NA

F. STORM WATER QUALITY MANAGEMENT

Have there been any changes in implementation, maintenance, mapping or modeling of storm water management practices in the past year? If yes, please complete the remainder of Section F.

Yes	No

Pollutant Loading Analysis:

Date of last model run:	2010	"No Controls" Load (tons/yr):	1,218,826.20	"With Controls" Load (tons/yr):	782,880.40
Model Version Used:	SLAMM 9.4.0	Average Unit Area Load (lbs/acre/yr):		TSS Reduction %	35.8

Storm Water Management Plan:

If TSS percent reduction is less than 20%, has a strategy been developed under a municipal-wide storm water management planning effort to acheive compliance?

NA

Projected Timeframe to Achieve 20% TSS Reduction (if applicable):

NA

BMPs Implemented in Reporting Year:

- Reconstructed Barnard Park basketball courts with reduced impervious area.
- Permeable pavers and a subsurface flow wetland were created as part of the redesign of County Trunk Highway F between Brown Deer and County Line Roads.

BMP Maintenance Activities in Reporting Year:

Street sweeping and catch basin cleaning were completed. See Attachment 2.
BMP Inspections are completed twice annually. See Attachment 3.

Agreements or Discussions with Other Municipalities to Employ a Regional Watershed Approach?

Milwaukee County is a member of the Menomonee River Watershed-Based MS4 Permit group. The group is currently soliciting proposals for a group project.

Milwaukee County is assisting the MMSD on their efforts to develop a Regional Green Infrastructure (GI) Plan, that will serve to document the locations and benefits of existing GI, and identify mechanisms for stimulating more widespread implementation of GI in the MMSD service area. Environmental Services and Parks staff serve on the Technical Steering Committee.

Milwaukee County is also collaborating with 1000 Friends of Wisconsin, MMSD, and participating municipalities to promote water-shed scale adoption of green infrastructure through updates to municipal codes and ordinances. The project will identify local codes and ordinances that are barriers to the implementation of green infrastructure and make recommendations and provide assistance to revise the codes. The project's focus area is the Menomonee River Watershed. This project is being expanded in 2014 to include the Oak Creek Watershed.

Planned Activities for Next Reporting Year:

- Milwaukee County will install permeable pavers draining a 14,000 square-foot parking lot at Behavioral Health Division Building.
- The Menomonee River Parkway is currently undergoing a redesign, which will incorporate multiple bio-infiltration and rain garden areas.
- Zablocki Park basketball courts will be rebuilt with reduced impervious area.
- Milwaukee County Zoo Parking Lot 1 will be reconstructed using permeable pavers as part of the design.
- A stormwater pond on College Avenue will have liner repairs and vegetation established along the banks.
- The County owned Menomonee River Parkway Lagoon will be converted from a treatment pond to a stormwater wetland. The pond is in need of maintenance and is being redesigned as the drainage area from which it receives stormwater has been reduced.

Program Modifications or Changes to Measurable Goal(s):

NA

Section II. Identify any known or perceived water quality improvements or degradation in the receiving water to which the MS4 system discharges. Where degradation is identified, identify why and what actions are being taken to improve the water quality of the receiving water.

Section III. Fiscal Analysis

Program Element	Annual Expenditure	2014 Budget	Source of Funds
Public Involvement, Education and Outreach		\$ 31,900.00	
IDDE		\$ 27,364.00	
Construction Site Pollutant Control			
Post-Construction Storm Water Management			
Pollution Prevention		\$ 75,883.00	
Storm Water Quality Management	\$ 253,183.00	\$ 118,600.00	
Total	\$ 253,183.00	\$ 253,747.00	

This fiscal analysis reflects the permit obligation costs associated with the Environmental Services Unit of Milwaukee County's Architecture, Engineering and Environmental Services Division, the group tasked with compliance of the MS4 permit. Additional costs of permit compliance not included in this analysis are located within other departmental and/or project budgets. For example each construction project completed by Milwaukee County would have a construction site pollution control component as part of the specific project budget. Also, stormwater related projects completed by other departments such as the installation of pervious pavement at the zoo are not in this analyses.

The Annual Expenditure column reflects actual costs for the Environmental Services Unit in 2013. Milwaukee County does not track the various components of the analyses (e.g. Education, Public Involvement, IDDE, etc.) in Milwaukee County's accounting system. The total sum of all categories is contained in the "Storm Water Quality Management" category.

Section IV. Certification Statement

I hereby certify that I am an authorized representative of the municipality covered under the MS4 permit for which this annual report is

Authorized Representative Printed Name: Timothy Detzer Title: Managing Environmental Engineer

Authorized Representative Signature:  Date Signed: 

Attachment 1
Illicit Discharge Field Screening

Outfall	Riverkeeper Assessment			Clark-Dietz/County Assessment						
	Bacteriodes	Dry E. coli	Wet E.coli	8/15/2013	10/10/2013	Total Chlorine (mg/L)		pH		Pheno
						8/15/2013	10/10/2013	8/15/2013	10/10/2013	8/15/2013
FMRMN12	positive	5300	7300	dry	dry					
FMRUC23	positive		4700	dry	dry					
FMRUC24	positive	8400	70000	could not locate	could not locate					
FMRHC32	positive	200	4300	dry	dry					
FMRH42	positive	50	4800	dry	dry					
FMRHC43	weak		8000	dry	dry					
FMRMN34	no	20	12300	trickle flow	trickle flow	0.11	0.18	7.53	7.41	ND
FMRMN36	no		20600	dry	dry					
FMRMN37	no		21300	dry	dry					
FMRMN39	positive	160	TNTC	flow observed	flow observed	0.06		8.24		ND
FMRMN40	no	150	39000	dry	dry					
FMRMN41	no	210	28800	dry	dry					
FMRMN62	positive	2500	1000	flow observed	flow observed	0.08	0.06	8.23	8.3	ND

Attachment 1
Illicit Discharge Field Screening

Outfall						Comments
	I (mg/L) 10/10/2013	Detergents (mg/L) 8/15/2013 10/10/2013		Total Copper (mg/L) 8/15/2013 10/10/2013		
FMRMN12						FMR sampled Wauwatosa outfall.
FMRUC23						
FMRUC24						FMR sampled Wauwatosa outfall.
FMRHC32						
FMRH42						MRK may have sampled non-County outfalls nearby
FMRHC43						partly buried-FMR may have sampled other outfall
FMRMN34	ND	0.12	0.12	ND	ND	discharge had no turbidity, color, sheen or odor
FMRMN36						partly buried-FMR may have sampled other outfall
FMRMN37						partly buried-FMR may have sampled other outfall
FMRMN39		0.25		ND		FMR sampled Wauwatosa outfall.
FMRMN40						FMR sampled Wauwatosa outfall.
FMRMN41						FMR sampled Wauwatosa outfall.
FMRMN62	ND	ND	ND	ND	ND	discharge had no turbidity, color, sheen or odor

**Attachment 2
Street Sweeping and Catch Basin Cleaning**

County Highway	Sweeping Frequency*	Collected (Cubic yards)	CBs Cleaned	Collected (Cubic yards)
Silver Spring Dr	3	10		
Hampton Ave	1	3	1	3
Beloit Road	2	6		
S. 92nd St				
Oklahoma Ave	2	9		
Layton Ave	3	21	1	2
S. 76 St	2	10		
Rawson Ave				
Mill Road	12	62		
Good Hope Rd	11	66		
Teutonia Ave	5	24		
43rd St	6	37		
Port Washington Rd	7	24		
107th St	3	12		
College Ave	8	4	5	0.5
Layton Ave	6	3	11	1.5
Rawson Ave	9	4	2	0.25
Menomonee River Parkway	1	9		
Zoo**	164	166	32	3.25
Parks***				7.5
Total		470		18

*One unit is equal a distinct sweeping event not necessarily the entire roadway.

** Material was collected from catch basins and other BMPs.

***Number of catch basins not recorded

Attachment 3
2013 Storm Water Management Facility Inspections

	Inspection Type	Location Notes	Major Outfall?	Date Inspected	Date Sediment Depth Taken	GPS STRUCTURES	Serious Problems Reported to Owner?
South Shore Rain Garden	Rain Garden & Infiltration		No				
South Shore StormTreat	Sedimentation Chamber	South of boat launch	No				
Bradford Beach Outfalls	Rain Garden & Infiltration		No	12/13/2013			yes
Bradford Beach Parking lot Bio R	Rain Garden & Infiltration		No	12/13/2013			yes
Bradford Beach Parking lot sed Chamber	Rain Garden & Infiltration		No	12/13/2013			yes
Bradford Beach Outfall 7 (Lake Park RC)	Rain Garden & Infiltration	Three Raingardens in Lake Park	No				yes
County Grounds Pond 1	Pond	Near Daycare	yes	10/7/2013			
County Grounds Basin 2 - Pond 1-3	Pond	Wisconsin Ave ponds	yes				
County Grounds Pond 3	Pond	Near Underwood Parkway	yes	12/13/2013			
County Grounds Pond 10	Pond	Behind Children's Court	No	10/7/2013			yes
Greenfield Park	Pond		No				
Menomonee Parkway	Pond		No				
Brown Deer Park	Pond		No	12/13/2013			
McGovern Park	Pond / Bio Retention / Sed Sump		No	12/13/2013			yes
51st St. And Rawson Ave.	Pond		No				
Port Washington Road	Pond		No				
Washington Park	Pond		No				
McKinley Raingarden	Rain Garden & Infiltration		No	12/13/2013			yes
McKinley Subsurface	Rain Garden & Infiltration		No	12/13/2013			yes
Zoo Pervious Pavement	Pervious Pavement	Various Locations	no				
Sports Complex Parking Lot	Pervious Pavement		no	8/15/2013			yes
College Ave	Pond (Dry Pond)	College ave south east of airport	no	8/15/2013			
College Ave @ Loomis	Pond			8/15/2013			
Doctors Park Sed Sump	Sedimentation Chamber			12/13/2013			yes

Attachment 3
2013 Storm Water Management Facility

	Comments
South Shore Rain Garden	No Longer Inspected
South Shore StormTreat	No Longer Inspected
Bradford Beach Outfalls	
Bradford Beach Parking lot Bio R	
Bradford Beach Parking lot sed Chamb	
Bradford Beach Outfall 7 (Lake Park Rd	
County Grounds Pond 1	
County Grounds Basin 2 - Pond 1-3	
County Grounds Pond 3	
County Grounds Pond 10	May be able to address some of this with new project in area. Possibly all issues will get addressed with project (inclu
Greenfield Park	
Menomonee Parkway	Part of Restoration work underway
Brown Deer Park	
McGovern Park	
51st St. And Rawson Ave.	
Port Washington Road	
Washington Park	
McKinley Raingarden	
McKinley Subsurface	
Zoo Pervious Pavement	
Sports Complex Parking Lot	Minor clogging on south end of lot where snow was piled. Notify owner to not stockpile snow.
College Ave	
College Ave @ Loomis	Owner aware of issues. Requested capital project. Teporary repair of inlet seems to be working. Still erosion problem
Doctors Park Sed Sump	