

Confirming Ongoing BMP Effectiveness

Tim Troester
City of Madison

Annual SW BMP Maintenance Reporting

“We have to do what?”

Madison's BMP Maintenance Compliance Program – Who?

- Administered by City Engineering per MGO Ch 37
- Two Engineers share Stormwater Management review & permitting duties. On average 30%-40% of their time is spent on Stormwater Management items.

Madison's BMP Maintenance Compliance Program – Why?



- The maintenance compliance program is a requirement of the City's MS4 Permit
- BMPs that are not maintained will not continue to provide credit toward meeting stormwater management requirements – either for the permitted site or the City

Madison's BMP Maintenance Compliance Program – What?

- Any development that triggers a stormwater management requirement that requires a stormwater management plan must obtain a Stormwater Management Permit prior to final project approval.
- Any property with a Stormwater BMP must record a Stormwater Management Maintenance Agreement against the property.

Madison's BMP Maintenance Compliance Program – When?

- Stormwater Management Maintenance Certifications are due annually
- Frequency and type of maintenance as dictated by the Stormwater Management Maintenance Agreement
- City of Madison first enforced annual report submittal in 2009

Annual Certification Reports

“Why do I have to hire a consultant for this?”

Annual Maintenance Reports

- 1 - Certification Page
 - Required for all reports
 - Summarize BMPs
 - General Comments
 - Engineer's Seal



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STORMWATER MANAGEMENT ANNUAL MAINTENANCE CERTIFICATION

Maintenance for Calendar Year: 2011
 Stormwater Management: 2519
 Permit Number: _____
 Project Name: Brightlingham Roothouse
 Site Address: 617 North Shore Dr
 Certifying Engineer: Timothy N. Troester
 Certification Date: Inspected 11-2-11, Report completed 3-22-12

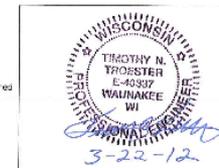
STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (BMP) IN USE:

BMP	Comments
East Rain Garden	General in good condition. Grade area between pavement and garden to improve runoff flow to garden.
Porous Pavers	Good condition. Monitor pavers for settlement.
West Rain Garden	Remove/treat twigs & monitor outlet structure to keep clear due to its small size.
	Plans, inspection forms & photos are attached.

(attach additional sheets as needed)

ATTACH INSPECTION SUMMARY PAGES FOR EACH BMP

This document and included maintenance summaries certify that the stormwater management BMPs for the above site have been properly installed for the indicated calendar year.



Engineer's Seal

Annual Maintenance Reports

- 2 - Inspection Logs
 - City Form or 3rd Party
 - Provide details inspection information
 - Note any maintenance requirements

City of Madison, WI
**Storm Water BMP Inspection Form -
 Bioretention/Raingarden/Infiltration Practice**

Project Name:	Birmingham Boat House - East Rain Garden
Address:	617 North Shore Drive
SWM Permit Number:	2519
Inspector:	Timothy N. Troester
Inspection Date:	November 2, 2011
Practice Type:	Bioretention Basin
Storm Water Control Requirements:	<input type="checkbox"/> Rate Control <input checked="" type="checkbox"/> Sediment Control <input type="checkbox"/> Oil/Grease Control <input checked="" type="checkbox"/> Infiltration <input type="checkbox"/> Thermal Control
Outlet Structure:	<input type="checkbox"/> Good Condition <input type="checkbox"/> Maintenance Required <input checked="" type="checkbox"/> N/A
Nature of Required Maintenance:	There is no outlet structure for this rain garden. It overflows to bay.
Storm Sewer Outfalls:	<input type="checkbox"/> Good Condition <input checked="" type="checkbox"/> Maintenance Required <input type="checkbox"/> N/A
Nature of Required Maintenance:	Grade area between pavement and raingarden to runoff to reach raingarden better
Practice Side Slopes:	<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Maintenance Required <input type="checkbox"/> N/A
Nature of Required Maintenance:	
Practice Bottom:	<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Maintenance Required <input type="checkbox"/> N/A
Nature of Required Maintenance:	
Sediment Deposition:	<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Maintenance Required <input type="checkbox"/> N/A
Nature of Required Maintenance:	No sediment deposits observed
Plant Spacing (every 2 sq ft)	<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Maintenance Required <input type="checkbox"/> N/A
Nature of Required Maintenance:	
Overflow:	<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Maintenance Required <input type="checkbox"/> N/A
Nature of Required Maintenance:	Overflows to bay, no erosion observed
Other:	<input type="checkbox"/> Good Condition <input type="checkbox"/> Maintenance Required <input checked="" type="checkbox"/> N/A
Nature of Required Maintenance:	
Comments:	Rain garden in good condition. Regrade area between pavement and garden to allow better runoff flow to the raingarden.
Three (3) Year Survey Attached:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Date of Last Survey:	
Photo(s) Attached:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Annual Maintenance Reports

- 3 - Photos
 - Include a photo of each BMP
 - LABEL THEM
 - Special emphasis if maintenance needed
 - Time/Date Stamp



617 North Shore Dr – East Rain Garden



617 North Shore Dr – East Rain Garden Close Up

Annual Maintenance Reports

- Site Specific Report Items
 - Owners Maintenance Logs
 - Topo Survey for Basins
 - Rainfall Info for Infiltration Practices
- Optional Report Items
 - Copy of the SWMA
 - Copy of the SWM Plan

BMP Maintenance - Basins

- Visual inspection of the basin, outfalls, and outlet structure
- Mowing – Twice per year
- 3-yr Topo Survey
- Infiltration basins must also meet the 72 hour draw down time



BMP Maintenance - Bioretention

- Visual inspection for silt deposits or erosion
- Mulch Cover - Weeding
– Plantings
- 24 hr / 72 hr Drawdown



BMP Maintenance – Inlet Filters

- Inspect 3x per year
- Clean debris from filter at least 2x per year
- Replace oil trapping part of filter annually at a minimum
- Provide receipts of replacement parts
- Keep log of inspections and cleanings



BMP Maintenance - Catchbasins

- Visually inspect every 3 months.
- Clean if sediment within 1 foot of the outlet pipe
- At a minimum clean once per year
- Keep log of inspections & cleanings



BMP Maintenance – Proprietary Devices

- Follow manufacturer's recommended inspection and maintenance guidelines
- City of Madison requires cleaning be completed at least once each year



After the Submittal is in

“What are you going to do with all these reports anyway?”

Report Review

- Reports reviewed for completeness
- Minor vs. Major Maintenance
- Is there a corrective action plan included?



Maintenance Follow Up

- Minor maintenance is expected to be completed and reported in the next annual report
- Major maintenance or repairs will be assigned a compliance date if no corrective action plan is included with the annual report
- Site or drainage conditions have resulted in a BMP no longer being effective
- Reconstruct?
- Redesign?

Maintenance Reporting Pitfalls

- Ignoring all the notices
- Providing photos that show maintenance needed in a report that says “BMPs are in good condition”
- The “Mass Effect”



Annual Comparisons

2009 – Year One

- 438 Permitted Sites
- 298 Sites required to submit annual report (completed install as of 1/1/2009)
- 76% submitted annual reports on time
- 30% indicated maintenance required
- 9% issued citations for failure to submit reports following notice

2011 – Year Three

- 561 Permitted Sites
- 526 Sites required to submit annual report (completed install as of 1/1/2011)
- 83% submitted annual reports on time
- 18% indicated maintenance required
- 6% issued citations for failure to submit reports following notice

Get Organized

Not the Erosion Control Database

File Edit View Insert Format Records Tools Window Help

MS Sans Serif

FILL OUT THIS FORM

Site Description Ancho Bank Site

Address Number 301

Street Dr (N,S,E,W)

Street Junction Rd

East/West West

Parcel Number 07062402106

Public Site Construction Completed

New Site Notes

Original Notes 2009 SWMM Cert approval conditions per log in 2010 report, 2010 SWMM Cert OK

NEW RECORD

Filter Records EAST WEST

PERMITS

Permit Number	Review Date	Compliance Due Date	Approval Conditions
2867	10/16/2006		

CONTACTS

Name	Company Name	Street Address	City	State	Zip	Email	Phone
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PRACTICES

Practice	Date Installed	treatment	Failure	Failure Date	Resolved	Resolved Date	Failure Notes
Oil and Grease	1/1/2007						

MAINTENANCE AGREEMENT

Date Recorded	Letter Sent (date)	Document Number	Notes
10/24/2006		4247178	

SEDIMENT LOADING

Max Control (ft)

Control (ft)

Efficiency

ANNUAL REPORT

Date Received	Compliance Date	Notes
8/28/2012	2012 SWMM Cert OK THT 12/27/12	
7/29/2011	2011 SWMM Cert OK THT 1-24-12	
8/26/2010		

NOTICES

Record
556

- City Engineering SWM Database
- Tracks Permitted Sites, BMPs, and Reporting
- Useful to create mass-email lists for reminder notices
- May transfer to new City computer permit & task tracking software in the future

Get the Word Out

- Reminder letters were sent early Spring and again late Summer 2009
- In 2011 sites with BMPs as part of a site plan approval prior to 2002 were required to submit annual reports as well
- Extra mailings were provided to the pre-2002 sites

Program Changes

Deadlines

- 2002 did not have a due date for annual reports
- 2009 ordinance updated to require submittal of reports by December 31st
- 2010 ordinance updated to require submittal of reports by September 1st to allow maintenance before end of the year
- 2012 ordinance updated to require submittal of reports by June 1st - Staffing

Reminder Letters

- The 2012 Experiment of “Less Paper”
 - Reminder letters were not sent in 2012. The thought was most sites had been through the process and know what is going on / expected.
 - We are still dealing with the fallout and chasing compliance.
 - Reminder Letters up front reduce a lot of work at the end.

Program Changes – Cont.

- Installation Certification
 - Many failures were contributed to poor installation practices
 - City of Madison now requires P.E. certification of installation / as-builts
- Non – P.E. Submittals
 - Changing inlet filters or cleaning catch basins
 - Inspection & cleaning of many proprietary devices
 - Reduced cost to prepare and submit annual report for many small sites

Pending Program Changes

- Reporting Requirements based on performance
 - Increase time between topo survey requirements for basins
 - Photos instead of survey for “dry basins”
 - Evaluate additional BMPs to add to the Non-P.E. list
- Automated or Batch Reminder Letters
- New Permitting System to tie permits to GIS data and property records.

Questions?

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