

**Municipality/Organization: Worcester State University**

---

**EPA NPDES Permit Number: MAR042022**

---

**MassDEP Transmittal Number: W-040406**

---

**Annual Report Number Year 10**

**& Reporting Period: April 1, 2012 – March 31, 2013**

---

## **NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2013)**

### **Part I. General Information**

Contact Person: Robert Daniels

Title:

Associate Director of Facilities

---

Telephone #: 508-929-8099

Email: rdaniels@worchester.edu

---

Mailing Address: 486 Chandler Street, Worcester, MA 01602

---

#### Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Kathleen Eichelroth

Printed Name: Kathleen M. Eichelroth

---

Title: V.P.-Administration and Finance

---

Date: 4/26/2013

---

## **Part II. Self-Assessment**

Worcester State University (WSU) has completed a Self Assessment of the Storm Water Management Plan. WSU updated the SWMP in November 2011, provided updated training in January 30, 20131 and continues to meet the requirements of the permit.

**Part III. Summary of Minimum Control Measures**

**1. Public Education and Outreach**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 11
100.1 (2005)	Distribution of Educational Materials	Robert Daniels	Design a SW Management information page on campus web-site that will be accessible by all students, faculty., administrators and general public.	Kept web-page updated.-Reoriented the “After the Storm” pamphlet to make it easier to read and added link to EPA’s Stormwater Outreach documents.	Keep web-page updated-Add SWMP link to the web-page and web-page design improvements
Revised					
100.2 2006	Distribution of Educational Materials	Robert Daniels	Designed a pamphlet for contractors to explain the expectations WSU has for contractors working on-site	Continued to distribute pamphlet to contractors. Contractor environmental considerations have been added to the web-site.	Continue to distribute pamphlet to contractors, will update as necessary to reflect New MS4 permit when its finalized.

**1a. Additions**

100.3 2007	Distribution of Educational Materials	Robert Daniels	Download EPA’s “After the Storm” pamphlet.	Pamphlet reoriented on the web-site.	No change
100.4 2008	Distribution of Educational Materials	Robert Daniels	“Focus the Nation” Presentation- nationally recognized teaching program- January 2008	Included SW as topic in WSU’s annual sustainability fair..	No change
100.5 2009	Distribution of Educational Materials	Robert Daniels	“National Teach-In on Global Warming” Presentation- nationally recognized teaching program- February 2009	Included SW as topic in WSU’s annual sustainability fair.	No change

100.6 2011	Distribution of Educational Materials	Robert Daniels	Sustainability Fair – Planned for Fall 2011 organized by WSU Student Affairs and Career Services	Included SW as topic in WSU's annual sustainability fair.	No change
---------------	--	----------------	--	--	-----------

## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 11
200 Revised	Storm Drain Stenciling	Robert Daniels	Re-stencil drains annually as needed	Re-stenciled drains by July 2012, included new storm drains near Admin Building. Also paint drains after cleanouts	Will re-stencil drains where necessary by Fall 2013
200.1 Revised	Campus Clean-up Day	Steve Bandarra	Annually in April-May	Biology and Facilities Departments tentatively plan to clean campus on Earth Day 2012	Faculty, Student Government Association, Regional Environmental Council plan to clean neighborhood on Earth Day 2013
Revised 200.2 2006 Revised	Lake Ellie Beautification	Peter Fenuccio/Robert Daniels	Dredge Lake Ellie by summer of 2007	Annually clean outlet pipe between Lake Ellie and Moore Brook, dispose of sediment	On-going
200.3 2007 Revised	Clean up of Moore Brook	WSU Grounds Crew and work study students	Clean brook annually as needed	Re-inspected and cleaned in fall 2012	Re-inspect and clean by Fall 2013

### 2a. Additions

200.4 2008	"In Business for the Blackstone"	Robert Daniels	Become member of the organization	Decided not to join "In Business for the Blackstone"	
------------	----------------------------------	----------------	-----------------------------------	--	--

200.5 2012	Formed Neighborhood Advisory Council	President's Office and Public Relations	Public involvement and information sharing	Formed Neighborhood Advisory Council to share information with local community	On-going
200.6 2012	American College and University President's Climate Commitment	Steve Banderra	Submitted Climate Action Plan	The Climate Action Plan referred to WSU's stormwater management plan	On-going
200.7 2012	National Arbor Day Foundation Tree Campus USA Initiative	Robert Daniels	Join foundation	Evaluating membership	

### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 11
300.2 Revised	Dry Weather Inspections	Robert Daniels	Semiannual Inspections	Performed dry weather inspection in April and August 2012.	On-going inspections- WSU will plan on spring and fall inspections in 2013.

### 3a. Additions

300.4	New SW Site Plans-as part of Campus Utilities Plans	Sandra Olson	New SW Site Plan	Update BSI –Subsurface Utility plans annually	The BSI –Subsurface Utility Engineering plan will be updated to include any changes to the storm water system .
-------	---	--------------	------------------	---	---

### 4. Construction Site Storm Water Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 11
400.1 Revised	Develop Construction Site Run Off Plan	Robert Daniels	Update Construction Run-off Program	Construction Run-off Program reviewed in Fall 2012, no changes necessary.	Update as necessary as result of renewal of MS4 permit.
400.2 Revised	Construction Run-Off Plan Training	Robert Daniels	Implementation of periodic training	WSU provided training in January 2013	WSU will provide retraining in January 2014

400.3 2006	Develop an enforcement strategy when construction inspections and BMPs are not being implemented	Robert Daniels and Facilities Department	Document all Stop Work notices that are generated	There were no Stop Work orders issued.	If necessary, Stop Work orders will be issued.
Revised					

#### 4a. Additions

400.4 2007	SW Review with Construction Site Personnel and MSCBA/DCAM	Robert Daniels	Meet with construction company and MSCBA before and during construction projects	Continued to interact with construction companies and DCAM/MSCBAs for utility relocation for dining/residence hall construction project.	Will continue to interact with construction companies and DCAM/MSCBAs for all DCAM/MSCBAs future projects that affect SW.
400.5 2007	Construction Site Inspections	Robert Daniels	Periodic construction site inspections	Weekly construction site inspections	Construction site inspections will be conducted for any new future Gymnasium project that will impact SW



**5. Post-Construction Stormwater Management in New Development and Redevelopment**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 11
500 Revised	Develop a Post Construction Storm Water Management Plan as an appendix to Storm Water Management Plan	Robert Daniels	Update Post Construction SWM Plan		Will update SWMP as necessary in 2013
500.1 Revised	Implement training for Post Construction SWM	Robert Daniels	Implementation of periodic training	WSU provided retraining in January 2013	WSU will provide retraining in January 2013
500.2 2006 Revised	Research alternatives to sand/road salt for road and walkway deicing.	Robert Daniels	Get prices and do a cost benefit analysis	Continued to expand use of Magic Salt use in Winter 2012-2013..	Will continue and expand use of Magic Salt use in Winter 2013-2014.

**5a. Additions**

500.3 2007	Catch basin clean out	Robert Daniels	Clean catch basins	Cleaned out catch basins in summer of 2012 Vortechnic Units were inspected but did not require clean out in 2012	Will clean out catch basins and Vortechnic units by summer 2013.
500.4 2007	Soil stabilization for Parking Garage construction site	Consigli Construction	Stabilized soil in project area		

**6. Pollution Prevention and Good Housekeeping in Municipal Operations**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 11
600 2007 Revised	Develop a training program for Facility Personnel	Robert Daniels	Implementation of periodic training	WSU provided retraining in January 2013	WSU will provide retraining in January 2013-----
600.1 2009 Revised	Snow Management	Robert Daniels	Less snow melt into Lake Ellie	WSU continues to work at improving snow removal management by relocating to less environmentally sensitive areas on campus	Continue the best management practices.

**6a. Additions**


7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 11
	NA				
Revised					

7a. Additions


7b. WLA Assessment

**Part IV. Summary of Information Collected and Analyzed**

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

(Since beginning of permit coverage unless specified otherwise by a \*\*, which indicates response is for period covering April 1, 2012 through March 31, 2013)

**Programmatic**

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures **	(\$)	
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

**Education, Involvement, and Training**

Estimated number of property owners reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
<ul style="list-style-type: none"> <li>▪ days sponsored **</li> <li>▪ community participation **</li> <li>▪ material collected **</li> </ul>	(#)	
School curricula implemented	(# or %)	
	(tons or gal)	
	(y/n)	

**Legal/Regulatory**

In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
<b>Regulatory Mechanism Status (indicate with "X")</b>				
▪ Illicit Discharge Detection & Elimination				
▪ Erosion & Sediment Control				
▪ Post-Development Stormwater Management				
<b>Accompanying Regulation Status (indicate with "X")</b>				
▪ Illicit Discharge Detection & Elimination				
▪ Erosion & Sediment Control				
▪ Post-Development Stormwater Management				

### Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	
<b>Mapping method(s)</b>		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	
Illicit connections removed **	(#); and (est. gpd)	
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	
% of population on sewer	(%)	
% of population on septic systems	(%)	

**Construction**

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	
Site inspections completed **	(# or %)	
Tickets/Stop work orders issued **	(# or %)	
Fines collected **	(# and \$)	
Complaints/concerns received from public **	(#)	

**Post-Development Stormwater Management**

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	
Low-impact development (LID) practices permitted and encouraged	(y/n)	

**Operations and Maintenance**

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	
Qty of structures cleaned **	(#)	
Qty. of storm drain cleaned **	(%, LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**		(\$)
• Hourly or per basin contract rate **		(\$/hr or \$ per basin)
• Disposal cost**		(\$)
Cleaning Equipment		
• Clam shell truck(s) owned/leased		(#)
• Vacuum truck(s) owned/leased		(#)
• Vacuum trucks specified in contracts		(y/n)
• % Structures cleaned with clam shells **		(%)
• % Structures cleaned with vacor **		(%)

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of:	
• Fertilizers	(lbs. or %)

▪ Herbicides	(lbs. or %)
▪ Pesticides	(lbs. or %)
Integrated Pest Management (IPM) Practices Implemented	(y/n)

(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used **	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand
(also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	
Pre-wetting techniques utilized **	(y/n or %)
Manual control spreaders used **	(y/n or %)
Zero-velocity spreaders used **	(y/n or %)
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)
% of salt/chemical pile(s) covered in storage shed(s)	(%)
Storage shed(s) in design or under construction	(y/n or #)
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)

**Water Supply Protection**

Storm water outfalls to public water supplies eliminated or relocated	# or y/n
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n