

Municipality/Organization: Worcester State University

EPA NPDES Permit Number: MAR042022

MassDEP Transmittal Number: W-040406

Annual Report Number Year 15
& Reporting Period: April 1, 2017 – March 31, 2018

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2018)

Part I. General Information

Contact Person: Robert Daniels

Title: Associate Director of Facilities

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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 M. Eichelroth

Printed Name: Kathleen M. Eichelroth

Title: V.P. - Administration and Finance

Date: 4/30/2018

Part II. Self-Assessment

Worcester State University (WSU) has completed a Self-Assessment of the Storm Water Management Plan (SWMP) and has determined that WSU is in compliance with all permit conditions. WSU will update the SWMP if necessary in spring 2018. WSU provided updated training in November 2017 and again in April 2018 and will continue 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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
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.	A university web page has been constructed, the SWMP and additional information will be made available as soon as the web site is complete.	Add latest version SWMP link to the web-page and web-page design improvements. Additional information about sustainability projects, city of Worcester information, and potential for invites for public participation will be provided on the web site. This is on schedule to be completed by August 2018
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. The pamphlets are available in the facilities office	Continue to distribute pamphlet to contractors, will update as necessary to reflect with new MS4 permit information.
100.3 2007	Distribution of Educational Materials	Robert Daniels	Download EPA's "After the Storm" pamphlet.	The pamphlets are available in the facilities office	Pamphlets continue to be available. These will be available on the website when it is completed
100.7 2012	Distribution of Educational Materials	Robert Daniels	Annual Sustainability Fair –Planned for Fall organized by WSU Student Affairs and Career Services	Included SW as topic in WSU's annual sustainability fair.	Continued participation in the sustainability fair

1a. Additions

100.8	Rain Water Storage Information	Robert Daniels	Provide information on the underground rainwater storage tank used for irrigation at the Wellness Center	Outlining information needs to educate surrounding public on the irrigation water source	Make information available on the web site.
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2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) -- Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities -- Permit Year 16
200	Storm Drain Stenciling	Robert Daniels	Re-stencil drains annually as needed	Re-stenciled drains by August 2014, included new storm drains near Admin Building. Also paint drains after cleanouts	Will re-stencil drains where necessary by Fall 2018
200.1	Campus Clean-up Day	Steve Bandarra	Annually in April-May	Biology and Facilities Departments cleaned campus on or around Earth Day 2017	Faculty, Student Government Association, Regional Environmental Council plan to clean neighborhood on or around Earth Day 2018. WSU EHS Department will also include electronics collection and paper shredding.
200.3 2007	Clean up of Moore Brook	WSU Grounds Crew and work study students	Clean brook annually as needed	Re-inspected and cleaned in Fall 2017	Additional cleanup is schedule for April 2018
200.6 2012	American College and University President's Climate Commitment	Steve Bandarra	Submitted Climate Action Plan	The Climate Action Plan referred to WSU's stormwater management plan, considered a member in good standing and in compliance	Will update as necessary and maintain compliance
200.9 2015	Live Learn Cohort- EcoHouse	Steve Bandarra	Students become more active in sustainability issues on campus	Students who want to live with common interest in sustainability and environmental issues	Group of students living together in Sheehan Hall-will be required to take sustainability seminar (e.g., solid waste, energy, toxics)
200.5 2012	Formed Neighborhood Advisory Council (NAC)	President's Office and Public Relations	Public involvement and information sharing	Formed Neighborhood Advisory Council to share information with local community (Civic Engagement Group), get involved in community and campus clean ups	On-going

2a. Additions

200.8 2014	Princeton Review Guide to Green Colleges	Steve Bandarra	Be listed as Green Campus	Applied to get listed as Green Campus and was notified that WSU made the list	Will be published as a Green Campus in Spring 2018
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3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
300.2	Dry Weather Inspections	Robert Daniels	Semiannual Inspections	Performed dry weather inspection and completed the checklist to determine if illicit discharges were present in spring 2017	On-going inspections- WSU will plan on spring and fall inspections in all future years.
300.4	New SW Site Plans-as part of Campus Utilities Plans	Sandra Olson	New SW Site Plan	Subsurface utility plans updated by BSI in spring 2017	The BSI –Subsurface Utility Engineering plan will be updated to include any changes to the storm water system as the campus grows

3a. Additions

300.5	Outfall Prioritization	Robert Daniels	List of most at risk outfalls from the campus	Documented the outfalls and the priority outfalls in the SWMP	Continue to evaluate outfall risks based on potential sources of pollution on the campus
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4. Construction Site Storm Water Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
400.1	Develop Construction Site Run Off Plan	Robert Daniels	Update Construction Run-off Program	Construction Run-off Program reviewed in Fall 2014, no changes necessary.	Update as necessary as result of renewal of MS4 permit.
400.2	Construction Run-Off Plan Training	Robert Daniels	Implementation of periodic training	WSU provided training in November 2017	WSU provided retraining in April 2018
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.
400.4 2007	SW Review with Construction Site Personnel and MSCBA/DCAMM	Robert Daniels	Meet with construction company and MSCBA before and during construction projects	Continued to interact with construction companies and DCAMM/MSCBAs for utility relocation for construction projects.	Will continue to interact with construction companies and DCAMM/MSCBAs for all DCAMM/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 projects that will impact SW

4a. Additions

	Greater Than 1 acre Construction Site Inspections	Robert Daniels	Periodic inspections of construction site that have their own construction general permit per the NPDES requirements	Bob Daniels along with engineering staff will help monitor, inspect, and track SW efforts of construction sites greater than 1 acre	Continue to inspect construction sites when present on campus
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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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
500	Develop a Post Construction Storm Water Management Plan as an appendix to Storm Water Management Plan	Robert Daniels	Update Post Construction SWM Plan	Currently updating SWMP in spring of 2017	Will update SWMP as necessary going forward
500.1	Implement training for Post Construction SWM	Robert Daniels	Implementation of periodic training	WSU provided retraining in November 2017	WSU provided retraining in April 2018
500.2 2006	Research alternatives to sand/road salt for road and walkway deicing.	Robert Daniels	Get prices and do a cost benefit analysis, reduction of sand and sediment in run off	Discontinued of Sand/ Salt, used environmentally friendly salt product instead.	Will continue the use of environmentally friendly salt product during future Winters. Will also continue to review new, environmentally friendly products

5a. Additions

500.4 2007	Catch basin clean out	Robert Daniels	Clean catch basins	Cleaned out catch basins and Vortechnic Units that were accessible	Will clean out catch basins and Vortechnic units by summer 2018.
500.5	Rain Water Harvesting	Robert Daniels	Increase the amount of on site infiltration of rainwater as well as a reduction of city water used for irrigation at the new Wellness Center.	Tank operated properly to irrigate the grounds around the Wellness Center	Continued operation

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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
600 2007	Develop a training program for Facility Personnel	Robert Daniels	Implementation of periodic training	WSU provided retraining in November 2017	WSU provided retraining in April 2018
600.1 2009	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

600.2	General Preventative Maintenance	Robert Daniels	Pollution prevention through proper equipment maintenance	Preventative maintenance programs have been in place and implemented at WSU for the entire year.	Continued execution of maintenance programs
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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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16

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, 2016 through March 31, 2017)

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		
▪ days sponsored **	(#)	
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	

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Legal/Regulatory

	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					
Accompanying Regulation Status (indicate with "X")					
▪ 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)	(%)	
Mapping method(s)		
▪ 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 vector **	(%)	

	(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:

("N/A" = never used; "100%" = elimination)		
▪ 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 ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	
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/l _n mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/l _n 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	

