

**Year 4 Annual Report**  
**Massachusetts Small MS4 General Permit**  
**New Permittees**  
**Reporting Period: July 1, 2021-June 30, 2022**

*\*\*Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form\*\**

*Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed. Please ONLY report on activities between July 1, 2021 and June 30, 2022 unless otherwise requested.*

**Part I: Contact Information**

Name of Municipality or Organization: University of Massachusetts Amherst

EPA NPDES Permit Number: MAR042056

**Primary MS4 Program Manager Contact Information**

Name: Theresa Wolejko

Title: Asst Dir, Environmental Health and Safety

Street Address Line 1: 117 Draper Hall

Street Address Line 2: 40 Campus Center Way

City: Amherst

State: MA

Zip Code: 01003

Email: twolejko@umass.edu

Phone Number: (413) 545-2682

**Stormwater Management Program (SWMP) Information**

SWMP Location (web address): <https://ehs.umass.edu/umass-storm-water-management-plan>

Date SWMP was Last Updated: Sep 16, 2022

If the SWMP is not available on the web please provide the physical address:

## Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4.

<b>Impairment(s)</b>			
<input type="checkbox"/> Bacteria/Pathogens	<input type="checkbox"/> Chloride	<input type="checkbox"/> Nitrogen	<input type="checkbox"/> Phosphorus
<input type="checkbox"/> Solids/ Oil/ Grease (Hydrocarbons)/ Metals			
<b>TMDL(s)</b>			
<b>In State:</b>	<input type="checkbox"/> Assabet River Phosphorus	<input type="checkbox"/> Bacteria and Pathogen	<input type="checkbox"/> Cape Cod Nitrogen
	<input type="checkbox"/> Charles River Watershed Phosphorus	<input checked="" type="checkbox"/> Lake and Pond Phosphorus	
<b>Out of State:</b>	<input type="checkbox"/> Bacteria/Pathogens	<input type="checkbox"/> Metals	<input checked="" type="checkbox"/> Nitrogen
			<input type="checkbox"/> Phosphorus
<div>Clear Impairments and TMDLs</div>			

Next, check off all requirements below that have been completed. **By checking each box you are certifying that you have completed that permit requirement fully.** If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.

### Year 4 Requirements

- ☒ Identified and developed an inventory of all known locations where SSOs have discharged to the MS4 in the last 5 years
  - ☐ The SSO inventory is attached to the email submission
  - ☐ The SSO inventory can be found at the following website:

There are no known SSOs
- ☒ Identified each outfall and interconnection discharging from MS4, classified into the relevant category, and priority ranked each catchment for investigation
  - ☒ The priority ranking of outfalls/interconnections is attached to the email submission
  - ☐ The priority ranking of outfalls/interconnections can be found at the following website:
- ☒ Developed written IDDE plan including a procedure for screening and sampling outfalls
- ☒ Developed written procedures to require the submission of as-built drawings and ensure the long term operation and maintenance of completed construction sites and added these procedures to the SWMP
- ☒ Developed written operations and maintenance procedures for parks and open space, buildings and facilities, and vehicles and equipment and added these procedures to the SWMP
- ☒ Developed an inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment and added this inventory to the SWMP
- ☒ Completed a written program for MS4 infrastructure maintenance to reduce the discharge of pollutants
  - Developed written SWPPPs, included in the SWMP, for all of the following permittee owned or
  - ☐ operated facilities: maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater
- ☒ Enclosed or covered storage piles of salt or piles containing salt used for deicing or other purposes

*Optional:* If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

SWPPP plans are progressing for fleet garage, PVTA garage, transfer station, landscaping, physical plant, and campus (loading docks, laboratories.) Oil and chemical storage has been identified. Most operations and storage occurs under a roof. We have a Spill Prevention and Counter Control Measure (SPCC) and an Integrated Contingency Plan for the campus. We have local spill equipment and a UMass OSHA trained HazWOper team. Employee training is documented. In FY23, each area will be identified with references, where various requirements can be found and responsible individuals.

#### Annual Requirements

- ☒ Provided an opportunity for public participation in review and implementation of SWMP and complied with State Public Notice Requirements
- ☒ Kept records relating to the permit available for 5 years and made available to the public
- ☒ Provided training to employees involved in IDDE program within the reporting period
- ☒ Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- ☒ All curbed roadways were swept at least once within the reporting period

*Optional:* If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

### **Nitrogen** (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

#### Annual Requirements

##### *Public Education and Outreach\**

- ☒ Distributed an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers
- ☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- ☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

*\* Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

##### *Good Housekeeping and Pollution Prevention for Permittee Owned Operations*

- ☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

##### *Potential structural BMPs*

Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents was tracked and the nitrogen removal by the BMP was

☐ estimated consistent with Attachment 1 to Appendix H. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP were documented.

- ☐ The BMP information is attached to the email submission
- ☒ The BMP information can be found at the following website:

A map of these areas can be found in the SWMP Section 12.3.7  
<https://ehs.umass.edu/umass-storm-water-management-plan>

*Optional:* If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Structural BMPs - 122 drainage areas have been identified on campus. Areas and design volumes need to be evaluated for each BMP

### Lake and Pond Phosphorus TMDL

☒ Completed Legal Analysis

*Optional:* If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

*Optional:* Use the box below to provide any additional information you would like to share as part of your self-assessment:

### Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted? Make sure you are referring to the most recent EPA approved Section 303(d) Impaired Waters List which can be found here: <https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state>

☐ Yes

☒ No

If yes, describe below, including any relevant impairments or TMDLs:

## Part IV: Minimum Control Measures

*Part IV includes some of the metrics that will be required in upcoming annual reports. For this annual report, please report on MCM1 and MCM2 and any other metrics below that have an asterisk (\*), along with any other metrics that you have started within this reporting period. Other than the metrics with an asterisk, the rest of the metrics are optional for new permittees. Then, proceed to Part V.*

### \*MCM1: Public Education

Number of educational messages completed **during this reporting period:**

*Below, report on the educational messages completed **during this reporting period**. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.*

#### **BMP:#1. Think Blue Connecticut River Website**

Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

The Think Blue Connecticut River website is at the core of all regional messaging about stormwater. The website at [www.thinkblueconnecticutriver.org](http://www.thinkblueconnecticutriver.org) does the following:

- ☐ Covers major areas of messaging about reducing polluted stormwater flows, including lawn and yard care, pet waste management, car care, controlling soil erosion, soaking up the rain, and septic system care
- ☐ Addresses the key 4 audiences plus educators
- ☐ Serves as the “landing place” for information on nearly all social media messaging

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

A total of 2,114 people visited the Think Blue Connecticut River website during Year 4 and spent an average of 36 seconds on viewing pages on stormwater best practices. Beyond the web analytics reported below on specific messages, there were the following views of the general audience pages on the Think Blue Connecticut River website, with businesses and educators each spending an average of 1.5 minutes looking at material.

Residents views = 58; Businesses and Institutions views = 51; Developers views = 29;  
Industries views = 29; and Educators views = 39

Message Date(s):

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

The University partnered with the connecticut River Stormwater Committee to enhance our Public Education and Outreach to the University and surrounding community

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### **BMP:2. Nip Bottles – Residents**

Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

Materials and messaging for this campaign to reduce nip bottles litter were developed in Year 4. The campaign, however, will be launched starting early in Year 5 to capture the largest audience possible, including students that come to the region for university studies.

PVPC staff took a staged photo of nip bottles along a stream bank that will serve as the image for this campaign and worked with Connecticut River Stormwater Committee membership to refine the message itself. The campaign includes:

- ☐ Message displayed on internal and external signs on PVTA buses servicing the region in both English and Spanish
- ☐ Web page on Connecticut River Think Blue website with additional information on nip bottle litter
- ☐ Social media mini ad campaign that links to information on Think Blue CT River web page to be shared with large membership organizations in the region
- ☐ Press release to local media

Targeted Audience: Residents, but really all audiences in the Connecticut River Stormwater Committee region

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

To be reported in Year 5 report

Message Date(s): To be reported in Year 5 report

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

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### **BMP:3. Installation of Hooded Catch Basins - Businesses**

Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

To reduce the wash of residue fuels from impervious surfaces into local waters, messaging to commercial and business owners with large parking lots involved development and distribution of a letter on the benefits of retrofitting with hooded deep sump catch basins and an offer of technical assistance from local public works officials. PVPC staff provided the draft letter to member communities to be customized and sent to local property owners.

Staff also drafted an article with similar content for publication in Business West and is working with the publication on best approach, perhaps as op-ed from the Stormwater Committee.

Targeted Audience: Business, institutions, commercial, and industrial facilities

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

Member communities reported that the letter was sent to 31 property owners in South Hadley and 241 property owners in East Longmeadow. Agawam revised the letter into a flyer, and sent the flyer to 13,557 residents (including both households and businesses) as an insert to a publication being sent out.

Message Date(s): Letters were sent between June 1 and June 30, 2022. The article in Business West is anticipated to be published in the first part of Year 5.

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

The University partnered with the connecticut River Stormwater Committee to enhance our Public Education and Outreach to the University and surrounding community

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#### **BMP:4. Low Impact Development Technologies and Strategies Workshop - Developers**

Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

PVPC had several conversations with staff from the Center for Watershed Protect to prepare for a developers workshop in Western Massachusetts that would highlight new development standards in the MS4 permit and updated MA Stormwater Handbook, advance better site design practices, and promote several important new tools, including the 5 to 7 green infrastructure stormwater control measure template designs that PVPC and partner communities are developing with an engineering consultant thanks to a Section 604b grant from MassDEP. Stormwater Committee members agreed to postpone the workshop to Year 5 when it is hoped an updated Stormwater Handbook will be issued and the stormwater control measure design templates will be completed

Targeted Audience: Developers

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

Number of people reached, including:  
# attending workshop



results from post workshop survey

Message Date(s): Now planned for Year 5

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

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### **BMP:5. Installation of Hooded Catch Basins – Industrial Facilities**

Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

To reduce the wash of residue fuels from impervious surfaces into local waters, messaging to commercial and business owners with large parking lots involved development and distribution of a letter on the benefits of retrofitting with hooded deep sump catch basins and an offer of technical assistance from local public works officials. PVPC staff provided the draft letter to member communities to be customized and sent to local property owners.

Staff also drafted an article with similar content for publication in Business West and is working with the publication on best approach, perhaps as op-ed from the Stormwater Committee.

Targeted Audience: Business, institutions, commercial, and industrial facilities

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

Member communities reported that the letter was sent to 31 property owners in South Hadley and 241 property owners in East Longmeadow. Agawam revised the letter into a flyer, and sent the flyer to 13,557 residents (including both households and businesses) as an insert to a publication being sent out.

Message Date(s): Letters were sent between June 1 and June 30, 2022. The article in Business West is anticipated to be published in the first part of Year 5.

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

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### **BMP:6. Proper Disposal of Leaf Litter - Residents**

**Message Description and Distribution Method:**

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

PVPC reprised messaging used previously based on a Be a Leaf Hero social media posts developed by the Cape Cod Commission, but now customized for the Connecticut River Stormwater Committee. The social media posts provide a series of tips and all tips contain a link to a page on the Think Blue Connecticut River website with more in-depth content and links. See website page at: <https://thinkblueconnecticutriver.org/be-a-leaf-hero/>. The content seeks to promote better practices with leaf litter and build understanding about potential contamination of stormwater with leaf litter. PVPC also prepared a PDF document for member communities use on their municipal websites.

Targeted Audience: Residents

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

**Measurable Goal(s):**

The Facebook ad was shown 101,008 times to 18,800 people, approximately 5 times per person, which drew 73 clicks to the website landing page.

Message Date(s): Facebook ad ran from October 22 to October 29, 2021.  
PVPC Facebook message was posted October 19, 2021.

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

The University partnered with the connecticut River Stormwater Committee to enhance our Public Education and Outreach to the University and surrounding community

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**BMP:7. Importance of Soil Test, Proper Use of Fertilizers, Disposal of Grass Clippings - Residents****Message Description and Distribution Method:**

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

A social media ad and regional Facebook post, using idea of keeping lawns safe for families, were central to messaging on lawn care in Year 4. The link provided in the social media post connects to the Think Blue Connecticut River web page on lawn and yard care, which lays out important best practices and links to useful resources, including a video by Paul Tukey, organic lawn care celebrity, as well as guides to popular lawn care chemicals and their hazards. The link to Think Blue Connecticut River is: <https://thinkblueconnecticutriver.org/lawn-and-yard-care/>.

PVPC reached out to eight large garden centers in the region to see if they would be willing to share the Facebook ad on their own pages. Of those contacted, only Randall's Farm in Ludlow responded and shared the Facebook ad both on their own Facebook page and on their website. The Facebook page for Randall's Farm has 9,561 followers.

Targeted Audience: Residents

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

The Facebook ad reached 19,744 individuals who match “gardening,” “home improvement,” or “do it yourself” identifiers in Connecticut Stormwater Committee zip codes. Two-hundred seventy-three people clicked on the “Learn More” button to go the Think Blue Connecticut River landing page on lawn care. Social media consultants noted that the audience tended to be older women and younger men (18 to 65 range) and that there was lots of engagement from mobile devices.

The PVPC Facebook post in the region was shared by several Stormwater Committee communities, as well as Randall’s Farm in Ludlow, which has 9,561 followers, MassAudubon Sanctuary at Arcadia, with 6,600 followers, and Connecticut River Conservancy, with 7,100 followers. Despite the many followers who likely saw these posts, the likes and shares indicated from these other organizations was limited.

Analytics for the Think Blue Connecticut River website, indicate that there were a total of 105 views on the website landing page, with average time spent by visitors on that resource page at 1 minute and 27 seconds, and 81 downloads of posted resources. The number of views indicated in the website analytics does not jibe with the social media click counts on the “Learn More” button. PVPC will confer with the social media and website consultants to determine what may be occurring so that this issue is resolved for Year 5.

Message Date(s): Facebook ad ran for 7 days, from May 31st through June 7th; PVPC posted the regional Facebook message on May 26th. Randall’s Farm shared the Facebook post on their page on June 21st, and on their website from June 15th through June 30th.

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

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## **BMP:8. Proper Management of Pet Waste – Residents**

Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

Pet waste messaging in Year 4 was multifaceted at both the time of licensing and during the summer. All messaging is based on the “Think picking up Spike’s poop is gross? Try swimming in it,” and aimed at driving people to the pet waste pick up pledge on the Think Blue Connecticut River website.

At time of licensing Based on a survey of municipal clerks/dog officers done in Year 3 about what might be the most effective methods for messaging through their licensing process, PVPC provided Towns an electronic message to be placed on the local licensing web page (something we learned that most municipalities now have) and an electronic postcard that could be printed and used in tandem with license distributions. To stress the importance of placing the message on dog licensing pages, PVPC sent an e-mail note with attachments to municipal clerks and licensing officers with a cc and referral to their respective Stormwater Committee representatives.

The Connecticut River Stormwater Committee had also planned to run a Facebook ad during this period, but the social media firm contracted for this work withdrew from its contract with PVPC. PVPC scrambled to find a new firm to handle social media advertising on stormwater, but locating and contracting with a new firm did not occur until spring of Year 4.

Targeted Audience: Residents

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

The Facebook ad reached 16,180 individuals in Stormwater Committee communities who match “pets at home” and “dog walking,” identifiers in the Connecticut Stormwater Committee zip codes. Three hundred seventy-four people clicked on the “Pledge Here” button to go to the Pick Up Poop pledge on the Think Blue Connecticut River website. Social media consultants noted that the audience tended to be women over 55 and 80% of those accessing the ad did so through mobile devices.

The August media release went to 17 news outlets including, The Valley Advocate, Daily Hampshire Gazette, WWLP, WHMP, Western Mass News, New England Public Media, Westfield News, WAMC, Country Journal, Springfield Republican, Amherst Bulletin, The Register (Ludlow & Indian Orchard), Ware River News, Agawam Advertiser News, Chicopee Register, Belchertown Sentinel, Holyoke Sun. The Register turned the media release into a lead news story on the front page of their August 24th issue, relating the media release information to the work of volunteers working to clean up local ponds. See news article at: <https://www.register.turley.com/lr-archives/LUD082422.pdf>

These efforts led to 53 new Pick Up Poop pledges in Year 4 to a total of 275. Analytics for the Think Blue Connecticut River website, indicate that there were another 183 people went to the pet waste landing page on the Connecticut River Think Blue website with average time spent by visitors on that resource page at 1 minute and 8 seconds, and 40 downloads of posted PDF resources. Note that the number of clicks in social media on the pledge did not translate to follow through pledges on the website. PVPC will work with both the web and social media consultants in Year 5 to determine if additional refinements could help.

Message Date(s): The Facebook ad ran for 7 days, from July 29 to August 5. The media release was issued August 19. The Instagram ad has been delayed due to Facebook/ Instagram identify confirmation obstacles for the social media consultants, possibly due to the upcoming election. We anticipate clearance to run the add on Instagram before the end of September.

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

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## **BMP:9. Proper Septic System Care - Residents**

Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

PVPC again timed messaging on septic system care to coincide with EPA's Septic Smart Week, from September 20 to 24, with a Facebook ad and regional post to its Facebook page. These posts provide a link to a great infographic on septic system maintenance developed by Whatcome County Public Works and Health Department.

Targeted Audience: Residents

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

The Facebook ad were shown 5,458 times to 2,897 people whose interest matches "Septic Tank" in Connecticut Stormwater Committee zip codes. Facebook's estimated ad recall is that 550 of them could remember the ad two days later. The regional Facebook post drew a total of 16 "shares," including member communities. There were a total of 142 views of the Think Blue Connecticut River website septic system landing page with people spending an average of 1 minute and 31 seconds. Analytics indicate that there were 214 clicks to download information.

Message Date(s): The Facebook ad ran between September 20 and 24, 2021

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

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### **BMP:10. Proper Disposal of Leaf Litter - Businesses**

Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

Message description and distribution method: This year, PVPC continued the fruitful relationship with the UMass Extension program to reach the landscaper and landcare business and commercial audience with best practices messaging on disposal of leaf litter. An article appeared at the top of the October UMass Hort Notes e-newsletter, which is geared toward professional landscapers, who make up the bulk of the audience, with additional audience segments that include entities that work with professional landscapers (distributors, materials suppliers, nurseries, etc.) as well as Master Gardener/hobbyist types.

Best practices noted in the article are:

- ☐ Keep leaves off of driveways and roadways where they can easily wash into storm drains and contribute to higher nutrient flows during the fall season.
- ☐ Use a mulching mower. By mulching the leaves into turf areas, you avoid having to rake/blow and bag and you offer a way to manage autumn leaves while providing clients with free fertilizer. Mulched leaves recycle nutrients and reduce the overall need for applied fertilizer, which can help to reduce nutrient loading for local rivers, streams, and lakes.
- ☐ Alternatively, if your client has an existing compost pile, you can recommend that they consider allowing you to add leaves to the pile. Leaves provide a critically important element (carbon) to the composting

process, making for a more soil enriching product to be used in the next growing season. Be sure compost piles are located away from streams, lakes, or storm drains as these decomposing materials and nutrients could easily reach these water resources.

Targeted Audience: Businesses/institutions/commercial facilities

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

UMass Hort Notes newsletter goes to 31,362 landscapers and associated land care businesses across Massachusetts

Message Date(s): October 2021

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

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### **BMP:11. Importance of Soil Test, Proper Use of Fertilizers, Disposal of Grass Clippings - Businesses**

Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

For spring messaging on best landcare practices, PVPC staff again collaborated with UMass Cooperative Extension to reach the businesses that are caring for lawns. A newsletter piece published in the May 6 Landscape Message recommended:

Lean into the spring season with better lawn care practices. Here are two great strategies:

Leave grass clippings where they fall. Of course, you want to leave things nice and neat for your clients, but let them know that grass clippings left on the lawn will decompose, returning valuable nutrients back into the soil. This will save them money by reducing the need for applied fertilizer and promote a healthier lawn. To make best use of this free, natural fertilizer: mow high according to the grass species and use of the turf, do not remove more than 1/3 of the blade per mowing event, and mow when grass is dry.

Test your client's soil. A soil test lets you know more specifically what your client's lawn and garden need for nutrients so that you don't waste time and money. UMass Extension provides soil testing services. See: <http://umass.edu/soiltest> Opt for slow-release nitrogen sources if possible, and time applications properly to best align maximum nutrient availability from applied fertilizer with favorable growth periods, to promote maximum nutrient uptake and minimize potential loss

Targeted Audience: Business/institutions/commercial facilities

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members



## Measurable Goal(s):

Newletter is e-mailed to a list of approximately 13,000 landcare professionals, as well as posted on UMass Extension's Facebook feed, which has approximately 3,200 followers.

Message Date(s): May 6, 2022

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

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**BMP:13. Fowl Water Messaging Through State-Wide Campaign**

## Message Description and Distribution Method:

See: <https://thinkblueconnecticutriver.org/wp-content/uploads/2022/09/CT-River-SWC-Annual-Report-Narrative-MCM-1-Year-4.pdf>

On behalf of the members of the Connecticut River Stormwater Committee, Think Blue Massachusetts ran an educational advertising campaign from May 31 to June 17, 2022. The 30-second video entitled, "Fowl Water,"—in both English and Spanish—helps viewers visualize how stormwater runoff carrying motor oil, pet waste, and trash pollutes local waterways. The video and social media materials (translated into the top 6 most spoken languages in Massachusetts) are available at: <https://www.thinkbluemassachusetts.org/partner-materials> To measure the effectiveness of this campaign, Water Words that Work conducted a post campaign survey. The survey showed that 15% of residents in MA MS4 communities said they remembered the ad. Those who remember the ad are more aware of how stormwater pollutes waterways. The complete survey report is available at: [ThinkBlueMassachusetts.org](https://www.thinkbluemassachusetts.org)

Targeted Audience: Residents

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

## Measurable Goal(s):

Water Words that Work reports that within the Connecticut River Stormwater Committee region the campaign resulted in an estimated:

326,019 Facebook and Instagram impressions to English speakers

39,344 Facebook and Instagram impressions to Spanish speakers

426,607 YouTube ad impressions to English speakers

50,546 YouTube ad impressions to Spanish speakers

Message Date(s): May 31 to June 17, 2022

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

The University partnered with the connecticut River Stormwater Committee to enhance our Public Education and Outreach to the University and surrounding community

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**BMP: PE-4 Hold training classes for Physical Plant**

Message Description and Distribution Method:

PE-4 Training classes for SPCC, Storm Water Pollution Prevention, Emergency Response Procedures

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Environment Department

Measurable Goal(s):

Awareness and proper response in a timely manner to chemical releases. During FY22 notification procedures were followed, UMass had no reportable releases of oil. The majority of outside releases were non UMass vehicles.

Message Date(s): trainings held on 8/10/21, 2/22/22, and 6/7/22

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

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**BMP:PE-5 Preconstruction classes for contractors**

Message Description and Distribution Method:

Safety Orientation Video for contractors to include stormwater management, SPCC, chemical storage and various other environmental precautions

Targeted Audience: : Developers (construction)

Responsible Department/Parties: Environment Department

Measurable Goal(s):

Contractors on campus must watch the EHS Contractor Safety Training Annually if working on campus. 101 contractors viewed this video.

Message Date(s): trainings held between 7/1/21 through 6/30/22

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒



If yes, describe why the change was made:

Add an Educational Message

### **\*MCM2: Public Participation**

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) **during this reporting period:**

PI-1 Provided the opportunity for the public to review and comment on the SWMP as posted on our website  
 PI-3 Website content for handling of hazardous, universal and solid waste is posted  
 PI-4 We handled 7,491 hazardous waste pickup requests from the UMass community  
 Pickups doubled from last year as faculty, students and staff have returned back to campus after the Covid limitations.  
 - We encourage students to be members of committees.  
 - A lot of new and innovative ideas come from our professors and students.  
 - Students and staff have partner with Facilities and Campus Planning as well as Physical Plant during design as well as during construction.

Was this opportunity different than what was proposed in your NOI?    Yes ☐    No ☒

Describe any other public involvement or participation opportunities conducted **during this reporting period:**

Our faculty and staff are great resources for soil testing, composting, water quality.  
 The University is a living classroom!  
 During the Friends of Lake Warner Watershed Conference during the week of September 20, 2021, Theresa Wolejko gave a presentation on UMass green infrastructure

### **MCM3: Illicit Discharge Detection and Elimination (IDDE)**

#### **\*Sanitary Sewer Overflows (SSOs)**

*Check off the box below if the statement is true.*

☐ This SSO section is NOT applicable because we DO NOT have sanitary sewer

*Below, report on the number of SSOs identified in the MS4 system and removed **during this reporting period.***

Number of SSOs identified:

Number of SSOs removed:

*Below, report on the total number of SSOs identified in the MS4 system and removed to date. At a minimum, report SSOs identified **since the effective date of the permit (July 1, 2018)**.*

Total number of SSOs identified: 0

Total number of SSOs removed: 0

### **MS4 System Mapping**

*Below, check all that apply.*

The following elements of the Phase I map have been completed:

- ☒ Outfalls and receiving waters
- ☒ Open channel conveyances
- ☒ Interconnections
- ☒ Municipally-owned stormwater treatment structures
- ☒ Waterbodies identified by name and indication of all use impairments
- ☐ Initial catchment delineations

Describe any additional progress you made on your map during this reporting period or provide additional status information regarding your map:

Identified 122 drainage assets and additional rain gardens. Started to map out catchment delineations

### **Screening of Outfalls/Interconnections**

*If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses. Please also include the updated inventory and ranking of outfalls/interconnections based on monitoring results.*

- ☒ No outfalls were inspected
- ☒ The outfall screening data is attached to the email submission
- ☐ The outfall screening data can be found at the following website:

*Below, report on the number of outfalls/interconnections screened **during this reporting period**.*

Number of outfalls screened: 0

*Below, report on the percent of outfalls/interconnections screened **to date**.*

Percent of outfalls screened: 0

*Optional: Provide additional information regarding your outfall/interconnection screening:*

16 sites were evaluated for conditions but not screened.

### **Catchment Investigations**

*If conducted, please submit all data collected **during this reporting period** as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.*

- ☒ No catchment investigations were conducted
- ☐ The catchment investigation data is attached to the email submission
- ☐ The catchment investigation data can be found at the following website:

*Below, report on the number of catchment investigations completed **during this reporting period**.*

Number of catchment investigations completed this reporting period:

*Below, report on the percent of catchments investigated **to date**.*

Percent of total catchments investigated:

*Optional: Provide any additional information for clarity regarding the catchment investigations below:*

### **IDDE Progress**

*If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.*

- ☒ No illicit discharges were found
- ☐ The illicit discharge removal report is attached to the email submission
- ☐ The illicit discharge removal report can be found at the following website:

*Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed **during this reporting period**.*

Number of illicit discharges identified:

Number of illicit discharges removed:

Estimated volume of sewage removed:  gallons/day

*Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed **since the effective date of the permit (July 1, 2018)**.*

Total number of illicit discharges identified:

Total number of illicit discharges removed:

*Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:*

### **Employee Training**

Describe the frequency and type of employee training if conducted **during this reporting period**:

2 people were trained on September 24, 2021 prior to performing the dry weather inspections, to include safety, the inspection survey, and pictures of various infrastructures and the differences between natural and illicit discharges.

### **MCM4: Construction Site Stormwater Runoff Control**

*Below, report on the construction site plan reviews, inspections, and enforcement actions completed **during this reporting period**.*

Number of site plan reviews completed: 3

Number of inspections completed: 8

Number of enforcement actions taken: 0

*Optional:* Enter any additional information relevant to construction site plan reviews, inspections, and enforcement actions:

### **MCM5: Post-Construction Stormwater Management in New Development and Redevelopment**

#### **\*As-built Drawings**

Describe the status of the measures the MS4 has utilized to require the submission of as-built drawings and ensure long term operation and maintenance of completed construction sites:

All projects on campus are under the control of a UMass or UMass affiliated project manager. As built drawings are required as part of the bid specification under Section 017700 Contract Close out . As built drawings are maintained electronically on the FCP OCE drive.

### **Street Design and Parking Lots Report**

Describe the status of the street design and parking lots assessment including any planned or completed changes to local regulations and guidelines:

Street design and parking lot modifications are planned and managed by the University.

### **Green Infrastructure Report**

Describe the status of the green infrastructure report including the findings and progress towards making the practice allowable:

In 2010, the university created the Green Building Guidelines, which provide a framework for approaching new construction and major renovation projects on campus. The guidelines, developed and updated by students, faculty, and staff, encourage active conversations between designers, stakeholders, and building users. It requires that all new design and major renovations be certified LEED Silver plus.

One of the University's 6 key overarching principals is to Control Stormwater Runoff.

See [https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1006&context=cp\\_reportsplans](https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1006&context=cp_reportsplans)

Landscape Design:

Creation of low mow, no mow, and meadows in the campus landscape, which include a balanced blend of fine fescue grasses in no mow combines each variety's individual characteristics to create a turf that:

- Grow to form a dense sod
- Thrive in full sun to partial shade
- Require little if any fertilization
- Need minimal watering (only during extended dry periods)
- Resist most turf grasses diseases
- Biologically reduce weed growth
- Reduce lawn maintenance dramatically
- Serve as an ecological alternative to traditional high maintenance lawns

### **Retrofit Properties Inventory**

Describe the status of the inventory of permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas and report on any properties that have been modified or retrofitted:

Porous pavement was installed as part of the resurfacing of Parking Lot 28. Construction occurred during FY22, but this was completed in August of 2022.

## **MCM6: Good Housekeeping**

### **\*Catch Basin Cleaning**

- ☐ The catch basin cleaning optimization plan or schedule is not complete
- ☐ The catch basin cleaning optimization plan or schedule is attached to the email submission

- ☒ The catch basin cleaning optimization plan or schedule can be found at the following website:

Can be found in the SWMP section 12  
<https://ehs.umass.edu/umass-storm-water-management-plan>

*Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins **during this reporting period**.*

Number of catch basins inspected:

Number of catch basins cleaned:

Total volume or mass of material removed from all catch basins:

*Below, report on the total number of catch basins in the MS4 system, if known.*

Total number of catch basins:

*If applicable:*

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

This is the first round of monitoring debris removed per catch basin. 5 CB were just greater than 50%. These basins will be revisited with the next round of cleaning.

**\*Street Sweeping**

- ☐ The written procedures for sweeping streets and municipal-owned lots is not complete
- ☐ The written procedures for sweeping streets and municipal-owned lots is attached to the email submission
- ☒ The written procedures for sweeping streets and municipal-owned lots can be found at the following website:

Can be found in the SWMP section 12.3.3  
<https://ehs.umass.edu/umass-storm-water-management-plan>

*Report on street sweeping completed **during this reporting period** using one of the three metrics below.*

☐ Number of miles cleaned:

☒ Volume of material removed:

☐ Weight of material removed:

*If applicable:*

For rural uncurbed roadways with no catch basins, describe the progress of the inspection, documentation, and targeted sweeping plan:

**\*O&M Procedures and Inventory of Permittee-Owned Properties**

*Below, check all that apply.*

The following permittee-owned properties have been inventoried:

- ☒ Parks and open spaces
- ☒ Buildings and facilities
- ☒ Vehicles and equipment

The following O&M procedures for permittee-owned properties have been completed:

- ☒ Parks and open spaces
- ☒ Buildings and facilities
- ☒ Vehicles and equipment

**\*Winter Road Maintenance**

- ☐ The written procedures for winter road maintenance including the storage of salt and sand is not complete
- ☐ The written procedures for winter road maintenance including the storage of salt and sand is attached to the email submission
- ☒ The written procedures for winter road maintenance including storage of salt and sand can be found at the following website:

Can be found in the SWMP section 12.3.11  
<https://ehs.umass.edu/umass-storm-water-management-plan>

**\*Stormwater Pollution Prevention Plan (SWPPP)**

*Below, report on the number of site inspections for facilities that require a SWPPP completed **during this reporting period**.*

Number of site inspections completed: 3

Describe any corrective actions taken at a facility with a SWPPP:

2 cases of entrances silted in. Corrective Action, add trap rock and street sweep silt on the road

## Part V: Additional Information

### **\*Monitoring or Study Results**

*Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.*

- ☐ Not applicable
- ☒ The results from additional reports or studies are attached to the email submission
- ☐ The results from additional reports or studies can be found at the following website(s):

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

Surface samples of Tan Brook. The adjacent solid waste landfill is regulated by the Massachusetts Department of Protection.

### **Additional Information**

*Optional:* Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above:

### **COVID-19 Impacts**

*Optional:* If any of the above year 4 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

### **\*Activities Planned for Next Reporting Period**



Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 4 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree ☒

- Complete IDDE ordinance
- Complete Construction/ Erosion and Sediment Control (ESC) ordinance
- Develop written IDDE plan including a procedure for screening and sampling outfalls
- Develop a written catchment investigation procedure and added the procedure to the SWMP

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Continue public education and outreach program
- Sweep all curbed roadways at least once within the reporting period
- Provide training within the reporting period to employees involved in IDDE program
- Clean catch basins in accordance with catch basin cleaning procedures to ensure that no catch basin is greater than 50% full

Provide any additional details on activities planned for permit year 5 below:

## \*Part VI: Certification of Small MS4 Annual Report 2021

### 40 CFR 144.32(d) 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, I certify that 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.

Name:

Theresa M Wolejko

Title:

Assistant Director for Environmental

Signature:

[Signatory may be a duly authorized  
representative]

Date:

*Note: When prompted during signing, save the document under a new file name.*

### **Annual Report Submission**

*Please submit the form electronically via email to both EPA and MassDEP by clicking on one of the links below or using the email addresses listed below. Please ensure that all required attachments are included in the email and not attached to this PDF.*

EPA: [stormwater.reports@epa.gov](mailto:stormwater.reports@epa.gov)MassDEP: [laura.schifman@mass.gov](mailto:laura.schifman@mass.gov)

### **Paper Signature:**

*If you did not sign electronically above, you can print the signature page by clicking the button below.*

[Print Signature Page](#)

*Optional: If you did not sign electronically above, you may lock the form by clicking the "Lock Form" button below which will prompt you to save the locked version of the form. Save this locked version under a new file name.*

[Lock Form](#)