



CITY OF BURLINGTON

PHASE II STORMWATER
2010 ANNUAL REPORT

General Permit #3-9014
NPDES Permit #VTR040000

Submitted by:
The City of Burlington
Stormwater Management Program
Burlington Public Works

April 2011

A. INTRODUCTION

This report is being submitted as part of the City of Burlington's Phase II Stormwater Plan per the NPDES (National Pollution Discharge Elimination System) requirements. It follows the same format used in previous years and includes the following information as discussed in Section H of the city's plan:

- Status of compliance with permit conditions.
- Results of information collected.
- A summary of stormwater activities planned for the next annual cycle.
- Any proposed changes as outlined in Section F of the stormwater plan.
- If applicable, provide notice as to whether or not another entity is responsible for any of the permit obligations.

In addition to complying with the Phase II permit, much of our effort in 2010 was dedicated towards the implementation of \$1 million worth of ARRA funded stormwater reduction efforts in our combined sewersheds. While the improvements will benefit the combined sewer system which is not covered by permit 3-9014, we nevertheless feel that the techniques that we have developed for this project (infiltration systems within the Right of Way, below the road surface) have provided an additional "tool" for us to employ in the separate storm system and warrants mention. The ARRA project also involve the installation of approximately 1750 sq. ft. of pervious concrete in the parking lot for H.O. Wheeler School to offset the increased flow to the separate stormwater system from the redirection of a roof drain from the combined system, and the repair of a MS4 outfall at Plattsburgh Avenue.

B. STATUS OF COMPLIANCE WITH PERMIT CONDITIONS AND INFORMATION RESULTS

This section outlines efforts taken by the City of Burlington under each of the six minimum control measures in accordance with our revised Stormwater Management Plan (2008).

1. Public Education/Outreach Program

The City of Burlington continues to be a participant in the Chittenden County Regional Stormwater Education Program (RSEP) in accordance with section E1 of the stormwater plan.

During the 2010-2011 program year (March 1, 2010 through February 28, 2011) of the Regional Stormwater Educational Program (RSEP) included some new elements while maintaining a consistent stream of public education and outreach. The program included paid media and website redesign to educate the public about the effects of stormwater runoff on water bodies and the simple steps that the public can take to reduce these effects.

As in previous years, key messages of the campaign have remained the same, and include stormwater runoff and stormwater systems education, tips on prevention methods related to pet waste, car washing, fertilizer/chemicals, and home construction erosion or debris. Within the stormwater runoff and stormwater system messaging, there has been an increasing emphasis on water volume. Marketing Partners, Inc. continues to work on a contract basis with RSEP to implement the public outreach campaign. The complete 2010 Summary can be found in Appendix A, pages 11-12.

Additionally, the City undertook several other efforts to educate and communicate with the public regarding stormwater. In May 2010, the City's Annual Water Quality Report (see Appendix A, page 13) included a brief educational piece on stormwater and encouraging

citizens to visit the stormwater website which contains some basic information about the program and provides links to Smartwaterways.org.

The Burlington Stormwater Management Program (BSWMP) and the Department of Public Works has also been utilizing social media tools (Front Porch Forum, FaceBook and Twitter) to communicate information about projects and share information about workshops and meetings. Efforts in 2010 were largely experimental, but the program is looking forward to using these tools more in 2011. Follow us at @btvdpw on Twitter or <http://www.facebook.com/BTVDPW> on facebook.

2. Public Involvement/Participation

On May 2, 2010 the Community and Economic Development Office (CEDO) once again played a key role in sponsoring Green Up Day in Burlington. In total, volunteers collected 3.8 tons of garbage and 134 tires and 4 cubic yards of scrap metal. As in previous years, the Englesby Brook watershed was also targeted on Green Up Day. The Champlain Elementary School conducted a clean-up of Englesby Brook adjacent to their school grounds.



While not technically part of our formal compliance effort for permit 3-9014 or our phase II plan, we would like to note that Burlington did participate as a steering committee member on the Pilot MM2 Regionalization project (Chittenden County Stream Team) and worked to promote the following workshops (via FPF, flyers and FaceBook) to Burlington citizens.

- *“How to survey your neighborhood for opportunities to disconnect stormwater runoff from storm drains”* workshop with six total participants;
- *“Rain Barrel fabrication”* project with 20 participants from multiple communities;
- *“How to improve your driveway to reduce stormwater runoff”* workshop with 17 participants;
- *“How to develop a rain garden”* workshop with 13 total participants

Though the sign-in sheets did not always capture which town the participant was from, several of the workshops did have Burlington citizens in attendance. Additionally, we worked with the Pilot project consultant to plan for a “curb-cut” rain garden at Calahan Park in Burlington which will be installed in May 2011 with assistance from BSWMP. (See Map, Appendix B, page 14)

BSWMP is excited about the prospect of approaching this minimum measure in a joint, regional effort with other towns. We believe that it will provide a much higher quality public involvement project than any one municipality, with its limited personnel resources, could ever produce. It will also allow Burlington citizens to engage with citizens from other municipalities to improve water quality in the region.

3. Illicit Discharge and Elimination

The complete round of IDDE outfall testing that had been rescheduled for 2010 (originally was scheduled have occurred in 2009) had to be rescheduled again due to injury to key personnel (stormwater manager suffered a broken leg 10/4/2010, just prior to the scheduled event) which presented a challenge for accessing the outfalls, many of which are on steep slopes. The outfall inspection and testing is firmly scheduled to occur by May 15, 2011, with a follow up report to be sent to VT DEC.

Our regular semi-annual Wastewater Division sewer dye testing IDDE work (requirement of WWTP NPDES permits) related to sewer line crossing of streams and rivers did occur. This involves adding a strong concentration of dye upstream of the crossing and placing optical brightener (OB) pads in multiple spots downstream to pick up fluorescence from the dye. All the streams and rivers tested negative for dyes during the regular semi-annual testing.

4. Construction Site Stormwater Runoff Control

Article 3 of Chapter 26 of the City Ordinance “Wastewater, Stormwater and Pollution Control” continues to provide for stronger local regulatory oversight of projects engaging in earth disturbance. Specifically, all projects disturbing greater than 400 sq. ft. are reviewed by BSWMP for compliance with minimum Erosion Prevention and Sediment Control measures.

Project Review

In 2010, approximately **52 projects** were reviewed and accepted under this program. All projects are reviewed for compliance with State jurisdictional triggers related to earth disturbance, thus ensuring that the project complies with VT DEC requirements.

At minimum, projects must submit a “Small Erosion and Sediment Control Form” which is reviewed by DPW (see [link](#) on DPW website¹). Projects subject to Major Impact, Subdivision or Planned Unit Development zoning permit review must submit a more formal EPSC plan typical of that which is submitted to the State. As part of approval of the small project plan, a moderate plan or a major plan, a formal acceptance letter and notice has been established to clearly outline any additional conditions and inspections that may be required (see 2009 Annual Report for an example). If the project requires a state CGP or INDC, applying for and providing proof of coverage prior to construction is included in the conditions of the City Stormwater Approval.

Emphasis is placed on preventing sediment from leaving the property through the following measures:

- Proper use of sediment control (silt fence)

¹ http://www.ci.burlington.vt.us/planning/zoning/forms/erosion_sediment_control_plan_burlington_vermont.pdf

- Daily sweeping of the right of way
- Short durations of disturbance without temporary stabilization. Depending on the site, temporary stabilization is required after the initial 7 to 14 days (similar to the VT CGP risk mitigation matrix) of disturbance.
- Permanent stabilization within 48 hours of final grading
- Inspection after permanent stabilization has occurred
- Inspection within 1 year of permanent stabilization to ensure that final stabilization (grass growth etc.) has occurred

The City has also obtained several hundred copies of the VT DEC Low Risk guide to distribute to property owners/applicants who have submitted Small Erosion Control Forms.

Programmatic Development

Programmatic development continued throughout 2010 to improve the level of implementation of the construction site stormwater management regulations; specifically, the Chapter 26 approvals have been incorporated into the City's land record based permitting database currently used by the Planning & Zoning, Code Enforcement and Trades Inspection programs. This will enhance compliance and enforcement tracking, communication between permit programs (Stormwater with Planning & Zoning, Code Enforcement and Building permit programs) and will also facilitate reporting of key metrics to VT DEC (# of projects, # of projects > 1 acre, # of inspections etc). Currently inspections have been predominantly complaint driven, and the program is looking to shift this to a more proactive approach through the use of the AMANDA database, which has reporting capabilities which will enable project tracking reports to be generated and use to drive inspection workflow processes. Additionally, the use of AMANDA will allow Code Enforcement to evaluate whether final signoffs have occurred for the Construction approval conditions (i.e. permanent stabilization) before issuing certificates of occupancy.

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

Project Review

In 2010, approximately **20 projects** were formally reviewed and accepted. All projects are reviewed for compliance with State jurisdictional triggers related to the creation of new impervious or redevelopment of impervious, thus ensuring that the project complies with VT DEC requirements. Several projects were waived after filing additional information regarding disconnection of impervious surfaces so as to demonstrate that they had minimal effective impervious area on their property. In several cases, projects which did not have to file formal stormwater management plans, but which seemed to present an opportunity for education were required to participate in a technical assistance meeting with the BSWMP. A number of projects that were reviewed have incorporated LID techniques for stormwater management, including pervious pavers, green roofs and bio-retention areas. Additionally, several projects have been successful in treating/detaining stormwater runoff from both new impervious as well as a significant portion (25-50%+) of existing/redeveloped impervious. If the project requires a state stormwater 9015 or INDS permit, applying for and providing proof of coverage prior to construction is included in the conditions of the City Stormwater Approval.

Programmatic Development

In March 2010, the language in the April 2009 version of Chapter 26 which appeared to set the jurisdictional threshold for City level stormwater management review at ½ acre was stricken. As a result, all projects disturbing 400 sq. ft. of earth are now eligible for stormwater review by the BSWMP.

The BSWMP thus spent much of 2010 (and continues) working to craft realistic, sustainable programmatic guidelines for which projects might require formal stormwater review. and what might be required of projects with a minor vs. moderate vs. major impact. All projects requiring Major Impact, PUD, or Subdivision review by the Development Review Board are automatically placed in the major impact category. The determination regarding whether a project is “waived” from the stormwater requirements or is considered a minor or moderate impact project is currently a case by case effort, but we are looking to better define the jurisdictional guidelines.

Stormwater management requirements for single-family and duplex properties focus on the use of LID practices to the maximum extent practicable to reduce the amount of effective (connected) impervious. For these types of projects we provide the applicants with a copy of the VT DEC small site guide.

The BSWMP continues to refine the specific management goals for the level of treatment, retention and detention required by other projects. In general, the goals include water quality treatment for the 0.9” storm and peak discharge control for the 1 year, 24 hour design storm for 50% of the redeveloped or existing impervious surface and the equivalent of 100% of the net new impervious surface.² Groundwater recharge/infiltration is encouraged where contaminated soils or downstream infrastructure (basements) do not preclude such practices. Peak discharge control based on existing vs. proposed conditions is also evaluated for the 10 year storm is also evaluated to ensure that flooding issues are not worsened.

As with the construction stormwater review, the BSWMP is continuing to work to improve the level of implementation of this component of Chapter 26 through the use of the City’s land record based permitting database; specifically, the Chapter 26 approvals have been incorporated into the permitting/land based records used by the Planning & Zoning, Code Enforcement and Trades Inspection programs. This will enhance compliance and enforcement tracking, communication between permit programs (Stormwater with Planning & Zoning, Code Enforcement and Building permit programs) and will also facilitate reporting of key metrics to VT DEC and City administration (# of projects, # of acres of new and existing impervious mitigated, # of inspections etc.). In particular, this will enable the BSWMP to provide workflow consistency in follow up for stormwater systems requiring annual inspections and maintenance.

² For water quality treatment, the stormwater management practice would need to provide water quality treatment for the equivalent of 50% of the redeveloped surface and 100% of the net new (credit is given for existing impervious that is removed). For peak discharge control, the “pre” point of comparison is meadow with the appropriate HSG designation. Under the 50% redevelopment and 100% net new development peak discharge control guideline, if a project was adding 10,000 sq. ft. of net new impervious and redeveloping 10,000 sq. ft. the “pre” model would consist of 15,000 sq. ft. of meadow and 5000 sq. ft. of impervious, and the post model condition would consist of 20,000 sq. ft. of impervious.

Additionally, the use of AMANDA will allow Code Enforcement to evaluate whether final signoffs have occurred for the Post Construction Stormwater Management Plan approval conditions (i.e. initial compliance inspection) before issuing certificates of occupancy.

Additional Activity

The BSWMP is an active participant in the Low Impact Development Roundtable coordinated by the VT DEC (Jenna Calvi). The roundtable meets regularly to coordinate LID policy and further encourage LID Implementation in Vermont.

We also began construction of two “rain garden” traffic calming bumpouts in late 2010 with help from a \$10K grant from VTDEC’s Ecosystem Restoration Program. Rain garden media installation and planting will be completed in spring/early summer 2011.

Lastly, the BSWMP provided an assessment of erosion issues at Leddy Park for the Parks & Recreation Department. Several items are slotted for additional action by Parks & Rec in 2011.

6. Pollution Prevention and Good Housekeeping for Municipal Operations

Good Housekeeping

Inspection and cleaning of the municipal stormwater system continued in Burlington. The City of Burlington was able to purchase a dedicated Stormwater Vac-Con truck in 2010 through a SAFETEA-LU Stormwater Mitigation Grant, with matching funds from the BSWMP. Since the arrival of the truck in late July, the Street Maintenance group was able to clean and inspect 255 catch basins of the total 2000+ from August – October. With additional dedicated funding from the BSWMP for the Street Maintenance group, we are looking to increase our catch basin cleaning volume significantly in 2011.

As in all years, the City’s 110 lane miles of roadway are swept at least once annually, with many areas swept more frequently. Additionally, every spring Operation Clean Sweep occurs. This uses the city’s snow/maintenance lights to get parked cars off the streets, and involves three to four sweepers working nights to thoroughly clean every street.

In total, these Right of Way best management practices removed approximately **1120 tons of grit/sediment** from our Right of Way system. An additional approximate **2100 tons of grit** were diverted from surface waters due to much of Burlington’s stormwater collection (60%) draining to a combined sewer system which includes significant grit removal mechanisms at the WWTP during both smaller, fully treated storm events and larger events which trigger the wet weather system.

Programmatic Development

As with minimum measure 4 and 5, BSWMP is looking to improve our methods for documenting our workflow progress and implementing better planning of annual activities as it relates to catch basin inspections and cleaning, and possibly street sweeping. Currently, the Stormwater Vector team is using a paper form (see Appendix C, page 15) to collect inspection information and document cleanings. While these forms are generically “helpful”, we currently lack a system of associating these records with the specific features to maintain a history that easily reviewed and reportable. Part of the scope of work of our Mapping Update Project (see Section C) is to evaluate asset management strategies. These strategies will enable inspection,

maintenance and repair records to be associated with discrete elements of our collection system and will dramatically improve our ability to proactively plan our activities. An example of the benefits would be the ability to track the amount of sediment in a catch basin sump from cleaning to cleaning. Catch basins that are consistently found to have full sumps could be scheduled for more regular cleaning (semi-annually), while catch basins in “cleaner” areas might be scheduled for a less frequent cleaning schedule.

Outfall Maintenance

As part of our ARRA funded CSO stormwater reduction project, we were able to use clean soil excavated from other infrastructure installation sub-projects to improve an eroded MS-4 outfall at Plattsburgh Avenue. By finding a use for this material instead of paying for transport and disposal costs, we were able to generate cost savings from the ARRA project that was then able to be used to fund the outfall improvement. As part of this process, the outfall pipe was extended closer to the discharge point to the Winooski River.

Other maintenance

A large number of catch basins were repaired or replaced as part of the paving program and regular stormwater maintenance. In future years, BSWMP will improve efforts to track these activities using enhanced asset management tools mentioned above and below in Section C.

Drainage improvements continued on Colchester Ave, with the re-routing of stormwater conveyance on the southern side of the avenue towards an improved Fletcher Place outfall. Like the work undertaken on the northern side in 2009, this work was done to remediate localized flooding and the resulting erosion of the green belt from splashing.

Employee Education

Employees of the Department of Public Works regularly attended a variety of trainings/presentations during 2010 to gain additional information related to the various minimum measures:

- “Rebuilding America’s Roadways” by EJ Prescott on new SW management BMPs related to roadways (Stormtreat, Tenax Triplanar and Cudos) (2/11/2010) [Attended by: Erin Demers, Steve Roy, Megan Moir]
- EPSC refresher training for all Burlington DPW employees by Megan Moir, Stormwater Administrator (5/4/2010) (see Appendix D, pages 16-17 for list of attendees)
- RSEP Municipal Education Training “IDDE and Stormwater BMPs” by VT DEC (7/15/2010) (see Appendix D, page 18 for list of Burlington attendees)
- “Rooftop Disconnection Webcast” by Center for Watershed Protection (10/20/2010) [Attended by: M. Moir]
- Silva Cell presentation by SilvaCell (11/18/2010) [Attended by: M. Moir and S. Roy]

C. ACTIVITIES PLANNED FOR THE CURRENT ANNUAL CYCLE

All activities starting in 2011 shall be in accordance with the current management plan. This includes complete outfall monitoring, training, construction site review and monitoring, post-construction review of new projects and monitoring of completed projects, and continued review of municipal operations.

Additional activities planned for 2011:

MM1:

- Increase use of social media to communicate with citizens regarding stormwater topics including homeowner stormwater management tips, workshop opportunities and driving traffic to Stormwater website and Smartwaterways.org
- Continue development of City Stormwater website to include information on stormwater related workshops and presentations (“Get Involved”) and stormwater related projects (“Projects”)
- Provide brief stormwater related training and update on BSWMP at various Neighborhood Planning Assembly (NPA) meetings and get interested citizens to join the Chittenden County Stream Team (see MM2)

MM2:

- Amend stormwater management plan to include participation in Chittenden County Stream Team as mechanism for improving compliance with MM2 requirements.
- Implement rain garden installation at Calahan park using neighborhood volunteers
- Promote the rain barrel making workshops being held at Resource via outreach mechanisms above.
- Partner with and support with \$ WNRCDC to promote the installation of residential rain gardens in Burlington for the “Rain Garden Contest”
- Explore possibility of providing rebates to homeowners who are installing stormwater management practices (rain barrel, rain garden, pervious pavement etc.)

MM3

- Complete outfall testing (originally scheduled for 2009)
- Perform additional IDDE testing on any questionable connections found as part of mapping/inventory update (see MM6)

MM4:

- Continue integration of construction approvals process into AMANDA permit database to improve compliance tracking
- Increase # of field inspections, minimum 25% of projects
- Develop EPSC project forms/checklists for moderate and major projects

MM5:

- Continue integration of construction approvals process into AMANDA permit database to improve compliance tracking
- Inspect/obtain inspection certification from minimum of 50% of projects with stormwater management installed under Chapter 26
- Finalize jurisdictional guidelines and management plan standards for all projects
- Implement grant funds from VTDEC (\$45K) and LCBP (\$25K) to provide water quality improvements for the southern outfall to Blanchard Beach (drains Flynn Avenue and City Public Oakledge Park)
- Complete installation of 2 traffic calming rain garden bumpouts on Decatur Street (VTDEC grant \$10K)

MM6:

- Update stormwater infrastructure maps through SAFETEA-LU Stormwater Mitigation Grant; develop a GIS database with the potential for city wide asset management and hydrologic/hydraulic modeling. Prioritize complete mapping, inventory and

development of H/H modeling for Englesby watershed in preparation for Flow Restoration Plan development

- Clean a minimum of 850 catch basins (~1/3 of city's CBs) with an emphasis on MS4 basins vs. catch basins draining to the combined sewer
- Complete outfall condition inspection; prioritize outfall repair list for outfalls in poor condition; develop 5 year capital improvement plan for outfall repair
- Improve vehicle wash area to maximize oil/grease/sediment removal before discharge to the Pine Barge Canal
- Develop method (forms/GIS) for tracking street sweeping activities

D. PROPOSED CHANGES TO THE STORMWATER PLAN OR TIMELINE

Since a complete round of outfall testing was not performed during 2009 or 2010, IDDE work will occur in 2011 and 2013.

The contact for general correspondence should be changed to:

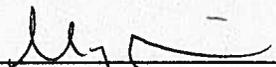
Megan Moir
Stormwater Plangineer
645 Pine Street
Burlington, Vermont 05401
mmoir@ci.burlington.vt.us
802-540-1748 (ph)
802-734-4595 (cell)

E. CHANGE IN RESPONSIBILITY FOR PERMIT OBLIGATIONS

No changes are proposed at this time.

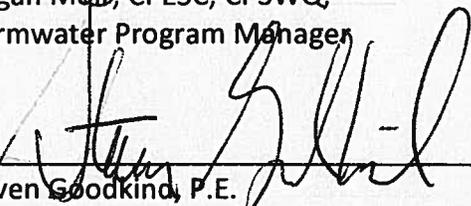
F. CERTIFICATION

"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 information, the information 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."



Megan Moir, CPESC, CPSWQ,
Stormwater Program Manager

4/4/2011
Date Signed



Steven Goodkind, P.E.
Director of Public Works

4/4/11
Date Signed

APPENDIX A – PUBLIC OUTREACH AND EDUCATION

Chittenden County Regional Stormwater Educational Program Annual Review: 2010- 2011 Program Year Summary

During the 2010-2011 program year (March 1, 2010 through February 28, 2011) of the Regional Stormwater Educational Program (RSEP) included some new elements while maintaining a consistent stream of public education and outreach. The program included paid media and website redesign to educate the public about the effects of stormwater runoff on water bodies and the simple steps that the public can take to reduce these effects.

As in previous years, key messages of the campaign have remained the same, and include stormwater runoff and stormwater systems education, tips on prevention methods related to pet waste, car washing, fertilizer/chemicals, and home construction erosion or debris. Within the stormwater runoff and stormwater system messaging, there has been an increasing emphasis on water volume. Marketing Partners, Inc. continues to work on a contract basis with RSEP to implement the public outreach campaign.

RSEP Communications Plan goals achieved in 2010-2011 have included:

- Complete website re-design and rebuild, including installation of Content Management System (CMS) software; new design/layout development; transfer of existing website content to the new CMS site; launch and troubleshooting of the newly designed site; and training of the selected CCRPC representative to make website content updates.
- New print creative was developed to reflect the look and feel of the new website.
- Extension of the “Soil Test” campaign in partnership with the University of Vermont (UVM) Agricultural Testing Lab to provide residents within the MS4 a free soil test. The ad campaigns drove people to the RSEP website where 261 eligible residents downloaded a printable coupon during this program year. UVM continues to track the number of coupons redeemed during paid media campaigns running in the spring and fall. Twenty-eight tests were submitted.
- The 2010 spring media campaign included a low-frequency schedule of four weeks of radio spots on VPR and WCPV; four weeks of cable TV spots; print ads in Seven Days; and four weeks of advertising on Front Porch Forum (an opt-in community e-newsletter). The spring 2010 media budget totaled \$4,988.60, a significant reduction as compared to the 2009 spring media budget.
- Another small paid media campaign was completed throughout Chittenden County in fall of 2010 that consisted of two weeks of print ads in core community papers, radio spots airing for four weeks on VPR, and four weeks of placement on Front Porch Forum. The fall 2010 ad campaign budget totaled \$7,500. This also represents a significant reduction in media budget as compared to the 2009 fall media budget.
- Compiled website and other media visibility tracking data in order to monitor outreach effectiveness.
- Continued to collaborate with partners in furthering stormwater education outreach.

APPENDIX A – PUBLIC OUTREACH AND EDUCATION

Gross Impressions/Audience Reach Chittenden County Regional Stormwater Educational Program Annual Review: 2010-2011 Program Year Summary

1. Unpaid Media (Public Relations)

In program year 2010-2011, there was no public relations effort. There were no impressions measured.

2. Total Paid Media Impressions, 2010-2011 (Spring and Fall campaigns)

The 2010-2011 paid media budget was less than half of the previous program year. The number of media spots, time period that paid media appeared, and the number of media outlets were reduced.

Print: 509,569*

Cable TV: 15,444 (Nielsen program ratings)

Radio: 130,172 (based on Arbitron ratings of adult listeners age 25-54, M-F 6a – midnight)

Online: 67,800 (based on circulation reported by media outlet)

Total impressions: 722,985

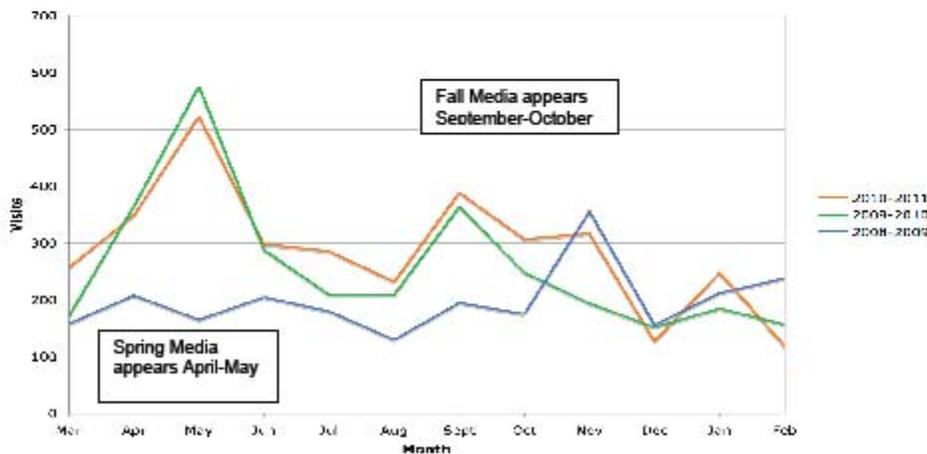
**Impressions are based on circulation as reported by outlet and an average readership of 2.34 per issue for community newspapers.*

3. Website

Below is the website visitor information for 2010, as compared to the two most recent preceding years. Website traffic increases are marked in conjunction with paid media campaigns.

Smartwaterways.org Website Visits

3-Year Comparison

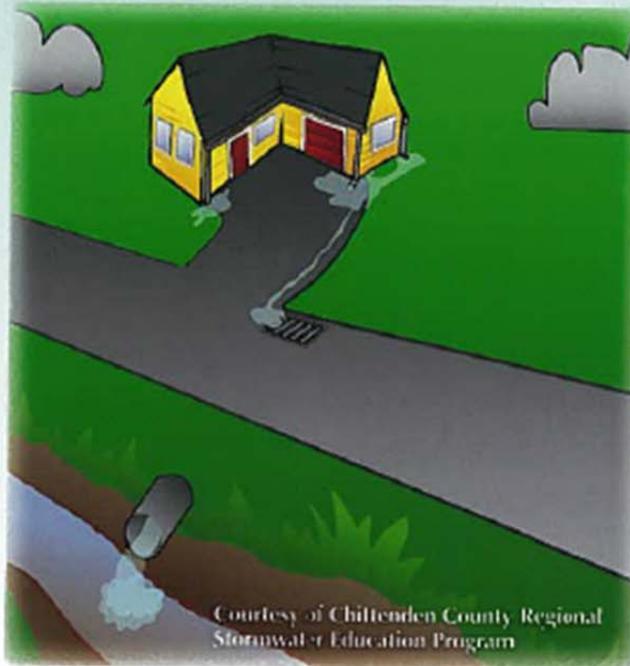


NOTE: This chart includes data Google Analytics for reporting. In program years 2004-5 to 2007-8, Urchin website pageviews were reported. As noted previously, Google Analytics provides a more accurate picture of actual website traffic, hence the switch in 2008.

Another Summer of Stormwater?

As we head into the “stormwater” season of summer, I encourage you to walk around your property and take note of what happens to the rain water after it falls from the sky.

Does the rainwater/stormwater from your rooftop and driveway have the opportunity to soak into your lawn? Or your rain gutter downspout directed to your driveway enabling the water to quickly leave your property and join with the growing volume of stormwater in the street before dropping into a storm drain?

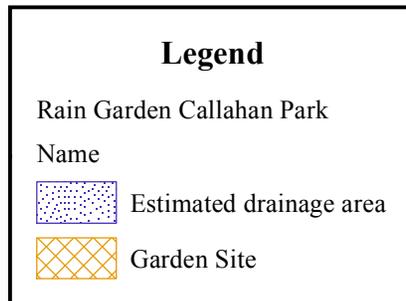


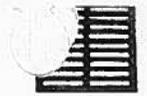
As you walk in the rain and splash through puddles, ask yourself: Do you know if that storm drain goes to the wastewater treatment plant or if it drains directly to Lake Champlain, the Winooski River or any of the other small local streams (Englesby, Centennial, Potash and other unnamed brooks) in the area? Have you ever seen water flowing out of a manhole (round covers) in your street? Why are more and more people concerned about “stormwater” when rain has been falling on our planet for eons?

For answers to some of these more persistent stormwater questions, as well as tips and workshop opportunities that will teach you how to reduce your stormwater impact, please visit the Burlington Stormwater Program website at: www.ci.burlington.vt.us/stormwater



Callahan Park, Burlington
 Chittenden County Stream Team
 Proposed Rain Garden





Vactor Crew Members: Bill Geehan - Matt Gosselin Date: 9-1-10

Location (Street Address or intersection)	Amount of Material 1 = < 6' / < 50% 2 = > 6' / > 50% 3 = More than avg	Sump Depth	Condition 1 = good condition 2 = fair condition 3 = needs attent'n 4 = needs imm attent.	Grate Type 1 = Newer style 2 = Older Style 3 = Hurricane	Waterway Marker (Y/N)	Cleaned (Y/N)	Notes/Comments
Colchester Ave - Past hospital drive	3-Full	0'	3-4	1	N	Y	walkway in front of Fletcher Allen needs to be concrete sidewalk - Needs new basin structure after & only 24" deep (See Bill)
S. union/Kingland terr inter. North side	3	24"	2	1	N	Y	
S. union/spruce inter. South bound	2	8"	1	1	N	Y	
S union/spruce inter South side	2	8"	1	1	N	Y	
381 south union South bound	3	5'	1	1	N	Y	
381 across from Cliff	1	18"	1	1	N	Y	
Front of 415 S. Union South bound	2	18"	2	1	N	Y	hardened asphalt
431 S. Union South	1	12"	1	1	N	Y	1 more basin Southbound - may have to post 'No park'

APPENDIX D

Name	Group (Row/water etc)	Signature
Bill Paquette	R. O. W.	Bill Paquette
Brian's Hammer	Streets	Brian's Hammer
Chris Harinsky	Streets	Chris Harinsky
Rich Gilstrap	Water	Richard Gilstrap
EBIN DEATHMETONIA	H ₂ O	Ebin
Douglas Beale GL.	Streets	Douglas Beale GL.
Joseph L. Perry	Streets	Joseph L. Perry
LORAN COOPER	STREETS	Loran Cooper
HAROLD GOSSELIN	STREETS	Harold Gosselin
GABRIEL NGANBA	Streets	Gabriel Nganba
STEVE HAMANN	R. O. W.	Steve Hamann
FERNARD BAKER	STREETS	Fernard Baker
Scot Lavalley	Streets	Scot Lavalley
Ray Savage	Streets	Ray Savage
Tyler Scott	Street dept.	Tyler Scott
MATTHEW GOSSELIN	Streets	Matthew Gosselin
Shane Raymond	STREETS	Shane Raymond
John Mason	Streets	John Mason
DAVID LAFORCE	Streets	David LaForce
William Carr	Water	William Carr
Ernest Sounsoiz	Street	Ernest Sounsoiz
Rich Thibault	streets	Rich Thibault
Bruce Hathaway Jr	Streets	Bruce Hathaway Jr
BOBBY COLE	Streets	Bobby Cole
JOE BRADIT	H ₂ O	Joe Bradit
Leo Legend	Water	Leo Legend
ADAM LAFONTAINE	H ₂ O	Adam Lafontaine
Anson Gordon	Water	Anson Gordon

Scott Phillips

Jason Wimble

GORAN ZEBIC

Ted miles

NORMAN BALDWIN

Streets

Streets

- WATER -

Maintenance

TECH SERVICES

Scott Phillips

Jason Wimble

Goran Zebic



Norman Baldwin

2010

MUNICIPAL EMPLOYEES MS4 TRAINING WORKSHOP
11-12:30 SESSION

NAME	TOWN
Doug Bedell	City of Burlington
Bill Geehan	City of Burlington
David Keat	Colchester
MARGE SKINNER	STATE OF VT DIST 1
Mike Osborne	Colchester
TOM MANNING	Colchester
DAVE P. McWright	Colchester
Jeff Smith	Colchester
Buzzy Julien	Colchester
Gary Jennings	Colchester
Jim Turrus	Village Essex Jct
Brian Tuttle	Town of Colchester
Dennis Lutz	Town of Essex
Rob Hall	VTRANS - Montpelier
HERBERT GILMAN	VTRANS - "
Bradshaw Irish	Town of Essex
Thomas Loveless	Town of Essex
Jeff Ramsey	VTRANS
Jon Armstrong	VTRANS
Lisa Shelton	Williston
Rick Peet	Williston
MARK Russell	Williston
Megan Mair	City of Burlington
Tim French	VTRANS
FLOYD SHEEPSLEY	TOWN OF COLCHESTER
William Sanderson	Milton
David ANTONI	MILTON
Bick Bohrer	Essex Jct
Janey Johnson	TOWN OF ESSEX
Russell Johnson	TOWN OF ESSEX
Robert Milles	ESSEX TOWN
Jerry Coe	" "
Bob Whitford	" "