

# Town of Colchester



## 2013 Annual Report for:

**General Permit 3-9014  
National Pollutant Discharge Elimination System (NPDES)  
Number: VTR040000  
For:  
Storm Water Discharges From Small Municipal Separate Storm Sewer Systems  
(MS4's)**

***Submitted to:***

**Vermont Agency of Natural Resources  
Department of Environmental Conservation  
Water Quality Division, Storm Water Management Program  
103 South Main Street, Building 10 North  
Waterbury, Vermont 05671-0408**

***Submitted by:***

**Town of Colchester  
P.O. Box 55, 781 Blakely Road  
Colchester, Vermont 05446**

***Date Submitted:***

**March 20, 2014**

**TOWN OF COLCHESTER  
GENERAL PERMIT 3-9014  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
NUMBER: VTR040000**

**2013 ANNUAL REPORT**

**Minimum Measure 1**

**Public Education and Outreach**

The Town of Colchester has participated throughout 2013 in the Regional Storm Water Education Program, (RSEP) along with other MS4 communities from Chittenden County. Activities as identified in the MOU contained in the Town's NOI and application have been successfully completed, and are more specifically outlined in the Chittenden County Regional Storm Water Educational Program, Annual Review: 2013 Program Summary, Prepared by Marketing Partners, Inc. for the first half of the year and by J. Andrews Marketing with assistance from CCRPC for the second half.

The Town has also developed a storm water web site, which displays a variety of storm water related information, including the Town's MS4 Permit Plan. The information can be viewed at [www.colchestervt.gov/PublicWorks/Stormwater.shtml](http://www.colchestervt.gov/PublicWorks/Stormwater.shtml).

**Minimum Measure 2**

**Public Involvement and Participation**

1. Citizen volunteers established to complete stenciling of the second 50% of the storm water structures within the MS4 designated areas. – The Town of Colchester, working with volunteers from the community, completed an extensive stenciling program during the summer of 2004. Residents from the Hidden Oaks sub-division in Colchester worked with the Department of Public Works to stencil approximately 800, or about 98% of all storm water structures throughout the community. The Department purchased the necessary equipment and materials to perform the work, which was completed primarily through the use of curb markers. Actual stenciling on the pavement was used where no curbs existed. The volunteers included several young children from residential neighborhoods. Training, supervision and a general education on good water resource management was provided by the Town. The efforts received media coverage through the local new papers. This accomplished all of the required work under this activity for years two and three of the permit. In 2006, the last two remaining sub-divisions that had not yet been stenciled were completed by high school students as a school project. Regular inspection accomplished through basin cleaning, street sweeping and regular travel on the transportation system revealed that only a limited number of curb markers required replacement.

These were done by DPW crews as they were identified. However, in 2007 a Cub Scout volunteer did assist the Town with these efforts.

At this point, regular inspections are concluding that many of the markers and stenciling now need to be replaced or updated. To continue addressing this need, the Town has formed a partnership with both the Boy Scouts and Cub Scouts in Colchester. Building on the Boy Scouts of America, "Leave No Trace" program, the partnership intends to work toward annual stenciling of the Town's storm water basins as part of their regular and ongoing curriculum. While stenciling is being done in each neighborhood, other scouts focus on distributing educational materials regarding their efforts as well as other storm water related issues. These materials also serve to direct citizens to the RSEP web site for further information. The Town provides all materials including program training for the scouts. Training materials have included products from RSEP as well as a stenciling training video developed by the Colchester Public Works Department. This video may be viewed on the storm water page of the department's web site. Select; "Education" and then; "Catch Basin Stenciling". The goal is to develop a long term relationship of public involvement and participation, and more importantly, involve younger citizens to more effectively create an improved and sustainable understanding of storm water related issues within our community. During the summer of 2013, the Scouts stenciled a total of 57 catch basins throughout the community.

2. Citizen volunteers established to participate in a stream corridor clean-up day and complete clean-up of 40% of Sunderland Brook – In 2004, the Town of Colchester was able to secure funding through the Chittenden Solid Waste District, under the District's Community Cleanup Fund, to retain a consultant to perform field reconnaissance of the Sunderland Watershed. This effort resulted in the identification and inventorying of nine (9) illegal dumping sites within the watershed. All information was collected in GIS format and mapped for future clean up efforts.

From 2004 – 2006, the Town cleaned up six of the nine sites as described in previous annual reports, much of which involved the use of citizen volunteers. The sites that were cleaned up included sites A-1, A-2, A-3, A-4, J-1 and J-3 as identified in the 2004 field reconnaissance. In 2008, the Town focused on the three remaining dump sites. It was discovered that site J-2 had already been cleaned up and restored by others. The Town with its own forces cleaned up sites A-5 and J-4 using Local Community Implementation Grant funds awarded to the Town by the VDEC. Of the nine sites identified through the 2004 field reconnaissance, all sites have now been cleaned up with volunteer assistance through the first six years of the MS4 Program. Similar to the Town's stenciling program, volunteers in some cases included children supervised by adults, with their efforts published in the local news papers.

3. Citizen Volunteer Green Up Day Activities - The Town has a significant volunteer base who regularly participates in activities aimed at preserving the community's abundant natural resources. During Green Up Day, a total of 340 Colchester citizens participated in cleanup activities collecting 3.6 tons of trash, 285 tires, and 2.5 cubic yards of metal.
4. Storm Water Watch Groups established within 100% of the sub-watersheds located within the MS4 designated areas – The Town has previously identified and mapped all eleven sub-watersheds within Colchester. Since inception, the Town has continued to expand the coverage areas and currently has a total of fifteen community volunteers secured to serve on our watershed watch groups. The volunteers live in a total of eleven different sub-watersheds, resulting in 100% coverage. Initial educational materials were provided to each of the volunteers to help them understand the types of conditions that can contribute to water quality problems. Information is periodically sent to them on an as needed basis. Future efforts will include using the existing storm water watch group network to solicit the participation of additional citizens to serve in this capacity.
5. Rain Barrel Workshop. – The Town's seven member Conservation Commission sponsored a Do-it-Yourself Rain Barrel Workshop in April in cooperation with the Winooski Natural Resources Conservation District and the Colchester Department of Public Works. In addition to building their own rain barrels for home use, the 10 participants received information on how rain barrels help conserve water, save money and protect waterways.
6. Rain Garden Refresh – The Town's Conservation Commission also participated in a springtime cleanup of the recently constructed rain garden along the Holy Cross Road bike path. As noted in last year's report, the rain garden was designed by local resident and landscape architect Paul Simon and constructed as part of a joint effort by the Commission and Dept. of Public Works. For the cleanup effort, all seven commission members plus one volunteer helped cleanup, weed, and refresh plants in the rain garden.
7. Citizen Leaf Collection – In November, 2013, the Town held a citizen leaf collection weekend. A total of 12 truckloads, containing nearly 100 tons of leaves, were collected and dropped off at Airport Park by residents and then hauled away by the Chittenden Solid Waste District to Green Mountain Compost in Williston to be turned into compost for sale.
8. Street or Urban Tree Survey – The Urban Tree report was created by the Vermont Urban and Community Forestry (UCF) Program based on an urban forest inventory conducted by citizen volunteers consisting mainly of Colchester Conservation Commission members Tim Moran, Darlene Sabourin, Theresa Carroll, and Pam Loranger with assistance from UCF staff Caitlin Cusack and Elise Schadler. The field work took the better part of eight months from August

of 2012 to March of 2013 for survey of 663 urban, street trees. Data collected included the GPS location, species, size, and general condition.

### **Minimum Measure 3**

#### **Illicit Discharge Detection and Elimination**

1. Update storm water system base map as required – This activity will be an ongoing process for the Town as additional development and associated storm water infrastructure is added. To maintain this database, a three tiered approach has been developed to document 1) existing storm water infrastructure, 2) additional storm water infrastructure added through the Town's maintenance efforts and/or capital improvement projects, and 3) additional storm water infrastructure associated with new development.

**Existing Storm Water Infrastructure** - The Town has been the recipient of a \$1.5 million EPA Demonstration Grant. One of the many activities contained within the scope of work is a comprehensive update of the Town's storm water system mapping. This work is now completed and can be viewed on the Town's project website at [www.colchesterwaters.net](http://www.colchesterwaters.net).

**Future Town Installed Storm Water Infrastructure** - The Department of Public Works continues to move toward additional in house GIS capabilities. In support of this approach, the Town has added two additional GIS ArcView work stations within the Public Works Department, and has obtained GPS data collection equipment. Under the previously mentioned EPA Demonstration Grant, the Town has recently purchased a software package (VueWorks / Edgesoft) that will provide a GIS based Asset Management Program to further enhance the Town's abilities to perform future mapping updates of its storm water system.

**Future Developer Installed Storm Water Infrastructure** - The Town has approved amendments to its Sub-division regulations to require that developers provide the Town with as-built information associated with new development, in digital form.

2. Develop and implement an Illicit Discharge Ordinance – The Town has developed and implemented an Illicit Discharge Ordinance. The ordinance regulates the contribution of pollutants to the MS4 from storm water discharges by any user, prohibits illicit connections and discharges to the MS4, and establishes legal authority to carry out the IDDE Plan, including conducting inspections, monitoring, and enforcement procedures to ensure compliance with the ordinance. The ordinance was adopted by the Colchester Select Board on July 26, 2005.

3. Perform inspection of all storm water outfalls within the MS4 designated area, and sample all outfalls with dry weather flows – The Town completed inspections of all permitted outfalls with reporting requirements as identified within the Town’s IDDE Plan, and outfalls identified in an Outfall Reconnaissance Inventory completed for the Town of Colchester, by the Department of Environmental Conservation in March of 2006. A total of 34 storm water outfalls were inspected. Testing included the *E-coli*, use of optical brighteners, as well as testing for pH.
4. Identify any illicit discharges and take the appropriate actions to correct all illicit discharges detected – No illicit discharges were detected as part of the outfall inspections or reported during 2013.
5. Update training for public employees as a part of the Town’s program for Pollution Prevention and Good Housekeeping. – On September 19, 2013, the Colchester Public Works employees received training at the Municipal Employees MS4 Training Workshop held at Farrell Street Park in South Burlington.
6. Provide updated educational materials to the Colchester Community Development Corporation for distribution to the business community – Educational brochures developed for local businesses were distributed through the Town’s Community Development Office. Approximately 130 brochures were provided for distribution.
7. Accomplish additional educational outreach as outlined in Minimum Measure 2 – The Town has accomplished additional educational outreach through the development and implementation of a storm drain stenciling program, stream corridor clean up initiatives, and the establishment of citizen storm water watch groups.
8. Document all actions – The Town has established files to maintain all documents relating to the management of illicit discharges. A complaint system has also been established to receive citizen complaints through a storm water hotline. The hotline is posted on the Town’s web site. There were no calls recorded in 2013.

#### **Minimum Measure 4**

##### **Construction Site Storm Water Runoff Control**

1. Conduct plan review for all land disturbances requiring permits under Planning and Zoning – The Town continues to perform plan review of all projects involving land disturbance as a part of the site plan review process and the issuance of building permits. In 2013, the Town reviewed and issued permits for a total of 469 projects involving land disturbances.

2. Inspect all locally permitted projects causing land disturbance for compliance to local erosion control ordinance, and take appropriate actions, including enforcement for violations. Report any suspected violations to ANR – In 2013, Town inspectors performed 1,641 site visits associated with 469 permitted projects involving land disturbances to ensure compliance to local erosion control ordinances.

## **Minimum Measure 5**

### **Post-Construction Storm Water Management in New Development and Redevelopment.**

1. Conduct development review process for all land disturbances requiring permits and require the appropriate post-construction storm water controls - The Town continues to perform plan review of all projects involving land disturbance as a part of the site plan review process and the issuance of building permits. In 2013, the Town reviewed and issued permits for a total of 469 projects involving land disturbances. Projects were required to conform to the Town's storm water regulations.
2. Attach O&M permit conditions to approvals for all land disturbances that are not taken under public ownership – All permit conditions associated with projects involving land disturbance were included in the approved Findings of Fact and Order approved by the Development Review Board. These documents become the instrument for enforcing the Board's approval.
3. Perform inspection activities as outlined in Section 5-4 and report any suspected violations to the appropriate jurisdiction - In 2013, the Town inspectors performed 1,641 site visits associated with 469 permitted projects involving land disturbances to ensure compliance to local erosion control ordinances.

## **Minimum Measure 6**

### **Pollution Prevention/Good Housekeeping for Municipal Operations**

1. Maintain the improvements and procedures outlined in the MCAP program – On September 19, 2010, John Daly, Environmental Assistance Specialist within the Vermont Department of Environmental Conservation, conducted an inspection of the Town's Public Works Maintenance Facility. The Town is in compliance with

each of the Direct Compliance Issues identified in the report. Spent diesel and gas fuel filters are being disposed of as outlined. The Town discontinued the use of clay absorbents several years ago. The Town has previously tested its sand blast waste for heavy metals with negative results. No changes in procedures or materials have been made since that time. Debris from both street sweeping and catch basin cleaning is currently being stored on site at the maintenance facility. The charges from landfills to accept the material as cover material have become cost prohibitive. Subsequently, the Town has had these materials tested and determined that they can be safely disposed of at alternative sites.

2. Maintain the improvements and procedures outlined in the Multi-Sector General Permit for the Town's Public Works Maintenance Facility – The Town currently understands from the VANR Legal Council that MSGP's are not required for Public Works Garages. The Town has however completed several improvements which would be required under a MSGP if one were required. These include the covering of construction materials such as asphalt, manhole frames and covers, and scrap metal. The sand blasting area has been paved to facilitate the clean up of the waste material after each occurrence. A holding tank has been installed which is connected to the floor drains within the maintenance facility to capture wash water associated with cleaning equipment. The waste water is periodically removed and discharged into the Town's municipal sewer system. Voters of Colchester previously approved bonds to allow improvements to several Town buildings, including \$750,000 for the Public Works maintenance Facility. As a part of this project, a 3,720 square foot cold storage facility has been constructed, allowing much of the Town's equipment and construction materials to be placed under cover. This project also included the replacement of an aging salt storage facility.
3. Maintain operation and maintenance program as identified in Section 6-1 – The maintenance program as identified in Section 6-1 reflects the Town's standard operating procedures and basic maintenance requirements within the community. Current and future budget plans reflect a continuation of these activities.
4. Conduct employee training as specified in Section 6-1c – On September 19, 2013, the Colchester Public Works employees received training at the Municipal Employees MS4 Training Workshop.

## **Minimum Measure 1**

### **Public Education and Outreach on Storm Water Impacts**

Attachments:

1. Regional Storm Water Educational Program – 2013 Recap of Public Education and Outreach Activities.
2. Connecting the Drops Program for 2013 in Downtown Burlington
3. Invoice and payment of 2013 RSEP contribution.
4. Public Works storm water web page.

## **Chittenden County Regional Stormwater Educational Program Annual Review: 2013- 2014 Program Year Summary**

The 2013-2014 program year (March 1, 2013 through February 28, 2014) has been a transition year for the Regional Stormwater Education Program (RSEP). *Marketing Partners, Inc.* of Burlington, the Program's contract marketing firm since its inception was retained through June 2013. A new marketing agency, *J. Andrews Marketing* was retained starting in August of 2013. The MS-4s worked with *J. Andrews Marketing* to analyze the results of RSEP's 5 year survey led the RSEP to decline to initiate a Fall 2013 campaign and instead take the time to plan for and begin to implement revisions to the program. To continue outreach efforts, the RSEP helped to co-sponsor the Let it Rain Program's, "Connecting the Drops" rain barrel exhibit which received significant media attention.

Key messages of the campaign remained the same and included stormwater runoff and stormwater systems education, and tips on prevention methods related to fertilizers and chemicals. The focus of the spring advertising campaign was to reduce fertilizer use and runoff through the use of soil testing to determine if fertilizer was needed.

**Completion of replicate survey to gauge Program effectiveness** The RSEP again hired UVM's Center for Rural Studies to implement RSEP's survey in July 2013 which takes place every 5 years so as to measure program effectiveness. 3,444 households in the nine RSEP municipalities were contacted via phone with 449 of those completing the survey. The results were similar to those obtained in 2008 with notable differences as follows:

- Many more people believe that stormwater that runs across their driveway is absorbed into the ground.
- There has been an increase in people who have tested their soil (though there is room for many more to join them). More educated people are more likely to soil test.
- There has been a significant drop in people who fertilize. However, of those that do fertilize, they are doing so multiple times per year. Our core demographics are the biggest offenders (35-64 year olds, homeowners) with one exception- less educated people tend to be "multiple fertilizers" more often than their educated counterparts.
- Significantly fewer people say that the downspout from their gutters lands on the lawn.

**Spring Advertising Campaign** The media campaign included four weeks of radio spots on VPR, WCPV, WEAV and WEZF; four weeks of cable TV spots in the Chittenden County area on the following channels (ESPN, TNT, HGTV, TLC & TWC; print ads in member community newspapers; and four weeks of advertising on Front Porch Forum (an opt-in community e-newsletter). The spring 2013 media expenditure totaled \$20,000 approximately the same level of spending as both the spring of 2012 and the spring of 2011.

**Extension of the "Soil Test" campaign** In partnership with the University of Vermont (UVM) Agricultural Testing Lab, the RSEP continued to provide the opportunity for residents with the MS4 area to obtain a free soil test. The ad campaign drove people to the RSEP website where 294 eligible program residents downloaded a printable coupon during this program year compared to 226 in the prior program year. UVM continues to track the number of coupons actually redeemed during paid media campaigns. 43 tests were submitted in 2013-2014 compared to 39 tests in 2012-2013 and 36 tests in 2011-2012. Overall visits to the "soil test" page ("page views" remained stable at 795 visits in 2013-2014 compared to 803 in 2012-2013.

**Sponsorship of complementary efforts** Through a contribution of \$12,500 RSEP became a chief sponsor of the Let it Rain Stormwater Program's "Connecting the Drops" rain barrel exhibit. This project identified the problem of limited public awareness of the issues of stormwater pollution and proposed methods to link this serious message with a fun and engaging outdoor art exhibit in the summer of 2013. The exhibit consisted of nineteen professionally painted rain barrels installed on pedestrian ways in downtown Burlington; Weekly concerts on Church Street throughout July (logo on signage, information at event booth, barrel giveaways, announcement from stage); Frog Hollow Signage (logo placement); Extensive print media campaign in *Seven Days* and *Kids VT* (logo placement); Signage and exhibit space at ECHO museum (logo placement) and South End Art Hop Auction Event (logo placement, barrel giveaway and auction, event speech, auctioneer recognition). In order to track the efficacy of the barrel in reaching residents of MS-4s towns, each barrel was fitted with a sign with the RSEP logo and stating "Win your own rain barrel: Scan here to sign up" and a QR code. A total of 811 visits to the project's website came via these QR scans on the barrels. 202 of those who scanned answered the prompted question of where they lived and 136 of those (63%) came from an RSEP member community. Through this QR signage and other events, 507 people signed up to try and win a free rain barrel. The project (and RSEP as a sponsor) also received significant exposure in the form of visitors and passers-by of the tabling event and sponsored music performers on Church Street (which has over 1.5 million summer visitors annually). The Let it Rain Program estimated 150 people attended each event with approximately 15 mailing list sign ups during each of the seven weeks. Last, it should be noted that RSEP included a link to the project on smartwaterways.org. Of the total summer traffic of 3,187 visits to the project website, 664 of those came from smartwaterways.org. The project as a whole received extensive media coverage (eight independent news stories).

**Increased website traffic** As detailed below, unique visits grew substantially to the Program's website, [www.smartwaterways.org](http://www.smartwaterways.org)

## Gross Impressions / Audience Reach

### 1. Unpaid Media (Public Relations) Fall PR Campaign

Instead of a fall paid advertising campaign, J Andrews Marketing and CCRPC did support a press outreach campaign with the goal of educating the press about RSEP and its initiatives. A template editorial was developed which was then adapted by individual MS4 and published as follows:

Editorials ran:

- The Other Paper, South Burlington, Circulation: 9,800  
(<http://edition.pagesuite-professional.co.uk//launch.aspx?eid=3f9dfe35-2c0e-43ca-a0fd-587daa321e18>)
- The Williston Observer, Circulation: 5,000  
(<http://www.willistonobserver.com/guest-column-communities-work-together-to-improve-water-quality/>)
- The Essex Reporter (not available online) Circulation: 8,800  
<http://www.essexjunction.org/news/item/communities-work-together-to-improve-water-quality/>
- The Colchester Sun (not available online) Circulation: 6,200 and published in Colchester School District "Spotlight" online news  
<http://csdspotlight.org/2013/12/>
- Front Porch Forum in South Burlington, Williston, Essex, Colchester. Approximately 14,000 impressions
- Total unpaid impressions for editorial campaign: 43,800

*Prepared by J Andrews Marketing and Chittenden County RPC*

In addition, editorial meetings were conducted with: Michael Page, Fox 44/ABC 22; Taylor Dobbs, Vermont Public Radio and Kathryn Flagg, Seven Days (Circulation: 33,417). These meetings resulted in specific ideas for stories that the reporters are interested in covering in the future, likely in Spring and/or Summer 2014.

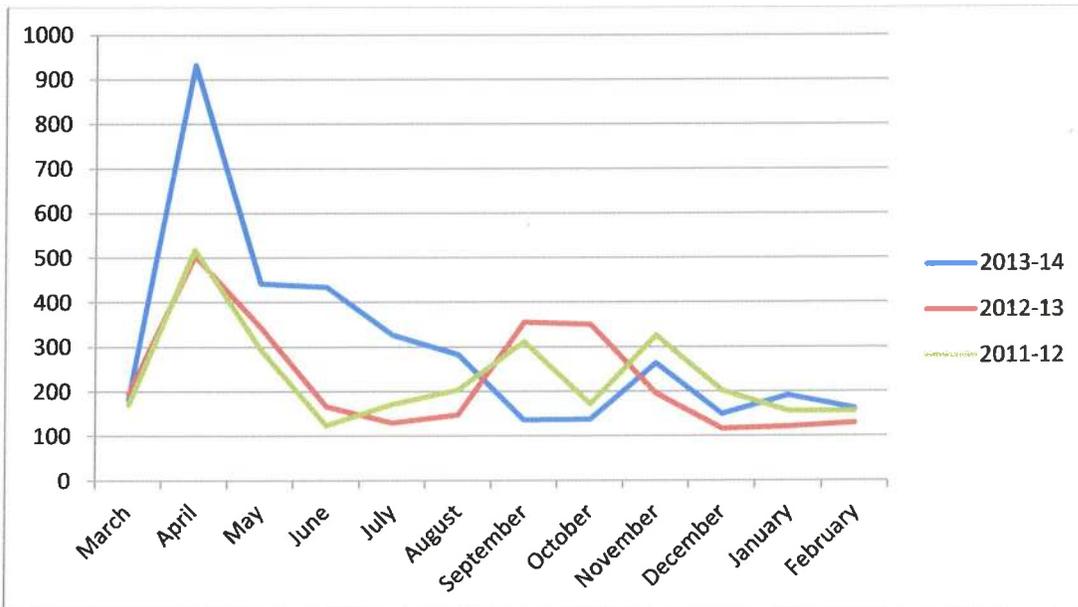
**2. Total Paid Media Impression, 2013 (Spring Campaign only)**

The 2013-2014 paid media budget was only \$20,000 and was focused only on the spring compared to RSEP’s usual pattern of a \$20,000 spring buy and a \$10,000 early fall buy. In addition to maintaining advertising in the usual commercial outlets of cable TV, radio and local print, RSEP again advertised through online sponsorships via Front Porch Forum. Overall, impressions were down to 1,440,046 compared to 2,111,804 in the 2012-2013 Program Year.

Print:	796,068
Cable TV:	60,060
Radio:	283,918
<u>Online:</u>	<u>300,000</u>
<b>TOTAL:</b>	<b>1,440,046</b>

**3. Traffic to Program Website (www.smartwaterways.org)**

Below is the website visitor information for 2013-2014, as compared to the two preceding years. The program year had 3,645 visits, significantly higher than visits in the two preceding years. Website traffic increases/spikes are in conjunction with the RSEP media campaigns and in the case of Spring and Summer 2013, due to the increased exposure from RSEP’s sponsorship of the Connecting the Drops campaign.



***Let it Rain Stormwater Program***  
***Connecting the Drops Rain Barrel Project***  
**RSEP Sponsorship**

**Final Report**  
**11-18-13**

**Sponsorship Amount:** \$12,500

**Contact Information:**

*Name & title:* Becky Tharp, Land Use Planning and Water Quality Educator

*Organization:* Lake Champlain Sea Grant

*Address:* 705 Spear St. Rm 123 UVM South Burlington, VT 05403

*Phone #:* 802-656-2514

*E-mail:* rtharp@uvm.edu

**Summary of Project:**

December 2012, the *Let it Rain* stormwater program was awarded a grant for \$40,000 from the ECOS Project, managed through the Chittenden County Regional Planning Commission, for an art and education exhibit featuring stormwater called “Connecting the Drops.” This project identified the problem of limited public awareness of the issues of stormwater pollution and proposed methods to link this serious message with a fun and engaging outdoor art exhibit in the summer of 2013.

Nineteen rain barrels were positioned from the top of Church Street (at Pearl Street) and down College Street to the doors of the ECHO Lake Aquarium and Science Center. Each barrel featured a panel of the *Kids VT* water story illustrated by local artist Matt Morris. As visitors walked the trail from the top of Church Street down College Street to the shore of Lake Champlain, they read the panels mounted atop the barrels to learn about the way stormwater damages Lake Champlain and what each of us can do to intercept the runoff through the use of “green infrastructure.” On the other side of the story panels featured SmartWaterways “Win a Rain Barrel” ads urging passersby to scan a QR code for a chance to win – bringing scanners first to the SmartWaterways website to answer a question about their town of residence.

Frog Hollow hosted the exhibit banner in their front windows with a synopsis of the exhibit, a map of the barrel locations, artist names and partners. ECHO Lake Aquarium and Science Center hosted an “investigation table” featuring samples of pervious and conventional concrete, a rain chain and a rain barrel. Visitors conducted their own rain water experiments on the two concrete materials and see what makes them so different during a rain event. In the fall of 2013, ECHO was installing outdoor signage featuring information on their installed rain gardens.

All of the displayed barrels were available for purchase at a live auction during SEABA’s South End Art Hop on September 7th. One lucky winner was selected to take home the first barrel on the *Kids VT* water story walk for free – the SmartWaterways barrel. *ArtsRiot*, with support from Signal Kitchen, coordinated an additional connection with the arts community through six Wednesday evening concerts right on Church St. from June 26 to July 31 at 6:30-8:30 p.m. These events featured local and touring acts, games, educational information, prizes and giveaways.

In the spring of 2013 RSEP agreed to sponsor the Connecting the Drops Rain Barrel Project in downtown Burlington with \$12,500 in cash in return for logo placement on high profile signage, barrels, flyers and advertising, a QR code link to the SmartWaterways website, the marketing and giveaway of a SmartWaterways rain barrel, and an opportunity to speak at each of the six Church Street Marketplace events and the live auction event held during the South End Art Hop in September. The following report outlines the entirety of the project including outcomes of each sponsorship element, web analytics, additionally leveraged funds, and the actual value of the received advertising.



THIS DOCUMENT CONTAINS A MICROPRINT SIGNATURE LINE AND A WATERMARK ON BACK

**TOWN OF COLCHESTER**  
GENERAL ACCOUNT  
P.O. BOX 55  
COLCHESTER, VT 05446

**PeoplesUnited Bank**  
BURLINGTON, VERMONT  
58-6 /116

CHECK NO.  
32991

032991

VENDOR 5402	CHECK DATE 08/13/2013	CHECK AMOUNT \$5,000.00
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**PAY** \*\*\*\*\*5,000 DOLLARS AND NO CENTS

TO THE ORDER OF  
REGIONAL STORMWATER EDUCATION PROGR  
110 WEST CANAL STREET STE 202  
WINOOSKI VT 05404

\_\_\_\_\_  
AUTHORIZED SIGNATURE MP

⑈032991⑈ ⑆221172186⑆ ⑆100990020⑈?

32991

**TOWN OF COLCHESTER** P.O. BOX 55 COLCHESTER, VT 05446

WAR14-05

032991

INVOICE DATE	INVOICE NUMBER	INVOICE DESCRIPTION	NET INVOICE AMOUNT	PO NO.	VOUCHER
07/31/13	55	EDUCATION PROGRAM	5,000.00		

5402 REGIONAL STORMWATER EDUCATION PROGR 5,000.00 32991

Regional Stormwater Education Program

110 West Canal Street  
 Suite 202  
 Winooksi, VT 05404

# Invoice

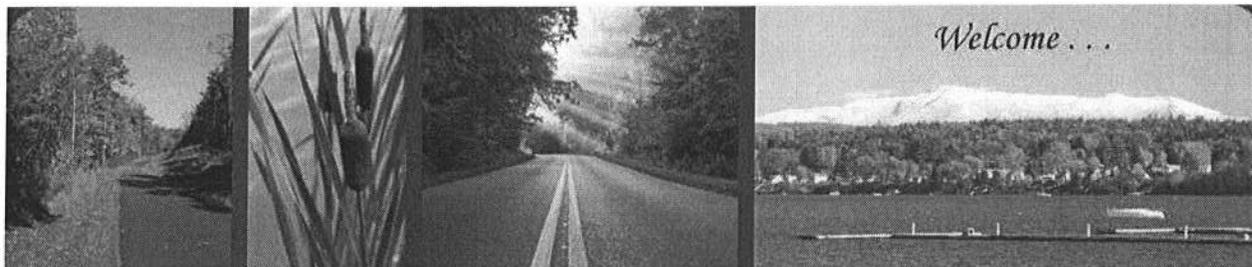
Date	Invoice #
7/31/2013	55

<b>Bill To</b>
Mr. Brian Osborne Director of Public Works Town of Colchester PO Box 55 Colchester, VT 05468

5402

P.O. No.	Terms	Project
	Due on receipt	

Quantity	Description	Rate	Amount
1	Regional Stormwater Education Program, Year 11	5,000.00	5,000.00
1000H3H - 480015 			
		<b>Total</b>	\$5,000.00



Town of Colchester, VT - Public Works Department 781 Blakely Rd., PO Box 55, Colchester, VT 05446 (802) 264-5620 8:00 am -5:00 pm Mon-Fri.

March 3, 2014

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- [Volunteer Opportunities](#)
- [Meet the Director](#)

- [Data Collection](#)
- [Education](#)
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Search

Colchester, VT

8 °F / -13 °C

Partly Cloudy

at 08:54 AM

Click for Forecast

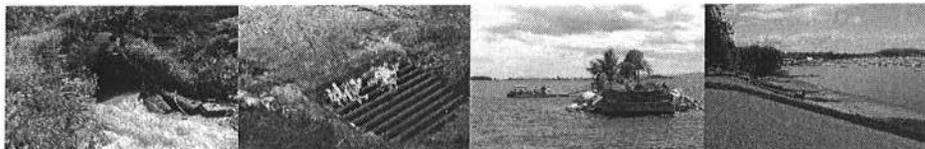
### Welcome to the Storm Water Page

The Town of Colchester is rich in natural resources. There are approximately 30 miles of shoreline on Lake Champlain, while the arms of Malletts Bay surround almost 10 square miles of the lake. The Town's southern border has about 9 miles of frontage on the Winooski river, and the northwestern border has about 3 miles of frontage on the Lamoille River. Inland from the lake lies Colchester Pond, a 186 acre water body. With 165 mapped wetlands, comprising a total of 3,066 acres, and many unmapped wetlands, Colchester has one of the most diversified and valuable collections of habitats in Vermont. For these reasons and many more, Colchester has made water quality a priority for many years. In keeping with these priorities, the Colchester Public Works Department has focused substantial resources on managing storm water runoff within the community.

[What is Storm Water Runoff?](#)

[Why is Storm Water Runoff a Problem?](#)

[Why and how to manage Storm Water?](#)



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Web Development by Off the Page Creations

## **Minimum Measure 2**

### **Public Involvement and Participation**

#### **Attachments:**

1. Stenciling Project
2. Storm Water Watch Groups
3. Colchester Conservation Commission 2013 Report
  - a. Rain Barrel Workshop
  - b. Rain Garden Spring Cleanup/Refresh
  - c. Fall Leaf Collection
4. Urban Street Tree Survey

## Warner Rackley

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**From:** Kate/Al Belluche <akbelluche@aol.com>  
**Sent:** Thursday, March 06, 2014 7:41 PM  
**To:** Warner Rackley  
**Subject:** Re: Annual stormwater report for Town of Colchester

Warner,  
Yes, that is correct. The computer generated checks are what we did previously and the hand written are the new ones. Late April or so I would like to get the maps back to have the option of doing more.

Al  
-----Original Message-----  
From: Warner Rackley <[WRackley@colchestervt.gov](mailto:WRackley@colchestervt.gov)>  
To: Kate/Al Belluche <[akbelluche@aol.com](mailto:akbelluche@aol.com)>  
Sent: Thu, Mar 6, 2014 9:08 am  
Subject: RE: Annual stormwater report for Town of Colchester

Al,  
Just letting you know that I received the maps from the Clerk's Office. Thanks for your help. As you know, it's a cumulative effort, so all help is appreciated. Looks like there are 57 inlets with penciled checks and another 233 that appear printed. Based on your emails, I assume the printed checks were from a previous year or years and the number for this past summer would be approximately 60. Does that sound correct?

Thank you,  
Warner C. Rackley, PE  
Asst. Public Works Director  
Town of Colchester  
781 Blakely Road, PO Box 55  
Colchester, VT 05446-0055  
Office: (802) 264-5635  
Fax: (802) 264-5503  
Email: [wrackley@colchestervt.gov](mailto:wrackley@colchestervt.gov)

**From:** Kate/Al Belluche [<mailto:akbelluche@aol.com>]  
**Sent:** Wednesday, March 05, 2014 8:44 PM  
**To:** Warner Rackley  
**Subject:** Re: Annual stormwater report for Town of Colchester

Warner,  
I dropped an envelope at about 5:30 pm on March 5th with your name on it at the drop box to the right of the main door of the town offices.

We did not do many new items, there should be a checkmark or something hand written on the maps used.

Thanks  
Al

-----Original Message-----  
From: Warner Rackley <[WRackley@colchestervt.gov](mailto:WRackley@colchestervt.gov)>  
To: Kate/Al Belluche <[akbelluche@aol.com](mailto:akbelluche@aol.com)>  
Sent: Tue, Mar 4, 2014 7:50 am  
Subject: RE: Annual stormwater report for Town of Colchester

Al,

## **Bryan Osborne**

---

**From:** Bryan Osborne <bosborne@colchestervt.gov>  
**Sent:** Monday, October 14, 2013 1:09 PM  
**To:** 'Alan Frank'  
**Cc:** 'krischesse@yahoo.com'  
**Subject:** RE: Catch Basin Stenciling

Alex and Kristian. That's fantastic! You guys are awesome! and I really appreciate your help.

Thanks, Bryan

Bryan K. Osborne  
Director of Public Works  
Town of Colchester  
P.O. Box 55, Colchester, Vt. 05446  
Tel. (802) 264-5625  
e-mail [bosborne@colchestervt.gov](mailto:bosborne@colchestervt.gov)

**From:** Alan Frank [mailto:[alan.frank@colchestersd.org](mailto:alan.frank@colchestersd.org)]  
**Sent:** Saturday, October 12, 2013 1:53 PM  
**To:** bosborne@colchestervt.gov  
**Cc:** krischesse@yahoo.com  
**Subject:** Catch Basin Stenciling

Hi Mr. Osborne,  
Kristian Labrie and I painted 48 catch basins around Williams-road area as public service for the boy scouts - troop 658. We also talked to some residents in the area about storm water runoff and the importance of not dumping anything into the basins.  
thank-you,  
Alex Frank



Table Of Contents

- Layers
- Stencil
- Init\_Yr
  - 2012
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- Outfalls09
- StormwaterFlow\_Junctions
- StormwaterStructures
- StormwaterEasements
- StormwaterPermits
- <all other values>
- TownPermittee
  - Co-Permittee
  - None
  - Permittee
- UnPermittedSitePlans
- Stormline09
- PrivateRoad2008
- PublicRoad2008
- rd\_gnd\_lg
- RetentionPonds09
- townline-poly
- soils2006
- parcel-poly
- colchester.sid
- Value
  - High : 255
  - Low : 0

## **Storm Water Watch Group Briefing**

Greetings and thank you for agreeing to be a part of a storm water watch group we are assembling throughout the community. The establishment of this citizen network is a key part of our overall water quality plan. Community involvement accomplishes an important component of public education, which is essential to an effective plan.

Your role is to provide your eyes and ears relative to water quality problems in your area, and report them to us. We will then evaluate the problem, and attempt to address it in the best way we can. Periodically, we will send you information that will hopefully assist in your efforts.

Attached to this e-mail, I have included a map that illustrates the sub-watersheds where the full storm water watch group will be established. There are now representatives working in the following water sheds:

- Colchester Pond Brook
- Crooked Creek
- Indian Brook
- Inner Malletts Bay
- Morehouse Brook
- Outer Malletts Bay
- Smith Brook
- Sunderland Brook
- Winooski River
- Gilbrook
- Lake Champlain

One of the leading problems relative to storm water pollution is sediment. Sediment comes from a variety of different sources. We spread sand on the roadways as a part of our winter maintenance operations. In order to prevent this practice from being problematic, it is critical that we have sound street sweeping and basin cleaning programs to remove the sand before it finds its way into a receiving waterway. It also comes from construction sites or other forms of land disturbance, both big and small. When the soil is exposed and it rains, erosion occurs and washes the sand and soil into receiving waterways. It also occurs from channel erosion where storm flows have reached a level where stream channels are being eroded and transferring sediment down stream.

Although a primary concern with Vermont's waterways is sediment, we are also concerned about other pollutants as well that may enter into our storm water systems and waterways. These are referred to as illicit discharges. These are typically discharges to the storm water system that consist of flows other than pure storm water. Examples would include oils, chemicals or untreated sewage.

Generally the types of things you should be looking for are erosion problems, anything other than storm water being placed or directed into the storm water system, or flows coming out of storm water systems during dry weather conditions.

Before you begin thinking that the entire responsibility for water quality monitoring for your area rest entirely on your shoulders, keep in mind that our storm water management plan contains

inspection programs where storm water basins and outfalls are inspected by our staff each year. Land disturbances are required to be permitted through our Planning and Zoning Offices, and are subject to inspection by Town staff. We can not see everything however and will benefit greatly from another set of eyes and ears.

Below are a few links that will provide you with additional information that you may find both informative and useful.

[www.anr.state.vt.us/dcc/waterq/stormwater.htm](http://www.anr.state.vt.us/dcc/waterq/stormwater.htm)

This link will take you to the storm water section of the Vermont Agency of Natural Resources web-site. Select "Publications" and you will find the Vermont Handbook for Erosion Prevention and Sediment Control.

[www.epa.gov/npdes/pubs/fact2-5.pdf](http://www.epa.gov/npdes/pubs/fact2-5.pdf)

This link will take you to a section of the EPA's site where you will find a fact sheet on Illicit Discharge Detection and Elimination Minimum Control Measure.

[www.smartwaterways.org](http://www.smartwaterways.org)

This web-site has been developed by the Chittenden County Regional Storm Water Education Program, (RSEP), to which Colchester is a member. It has been designed to provide public education on storm water and is advertised through a state wide social marketing campaign.

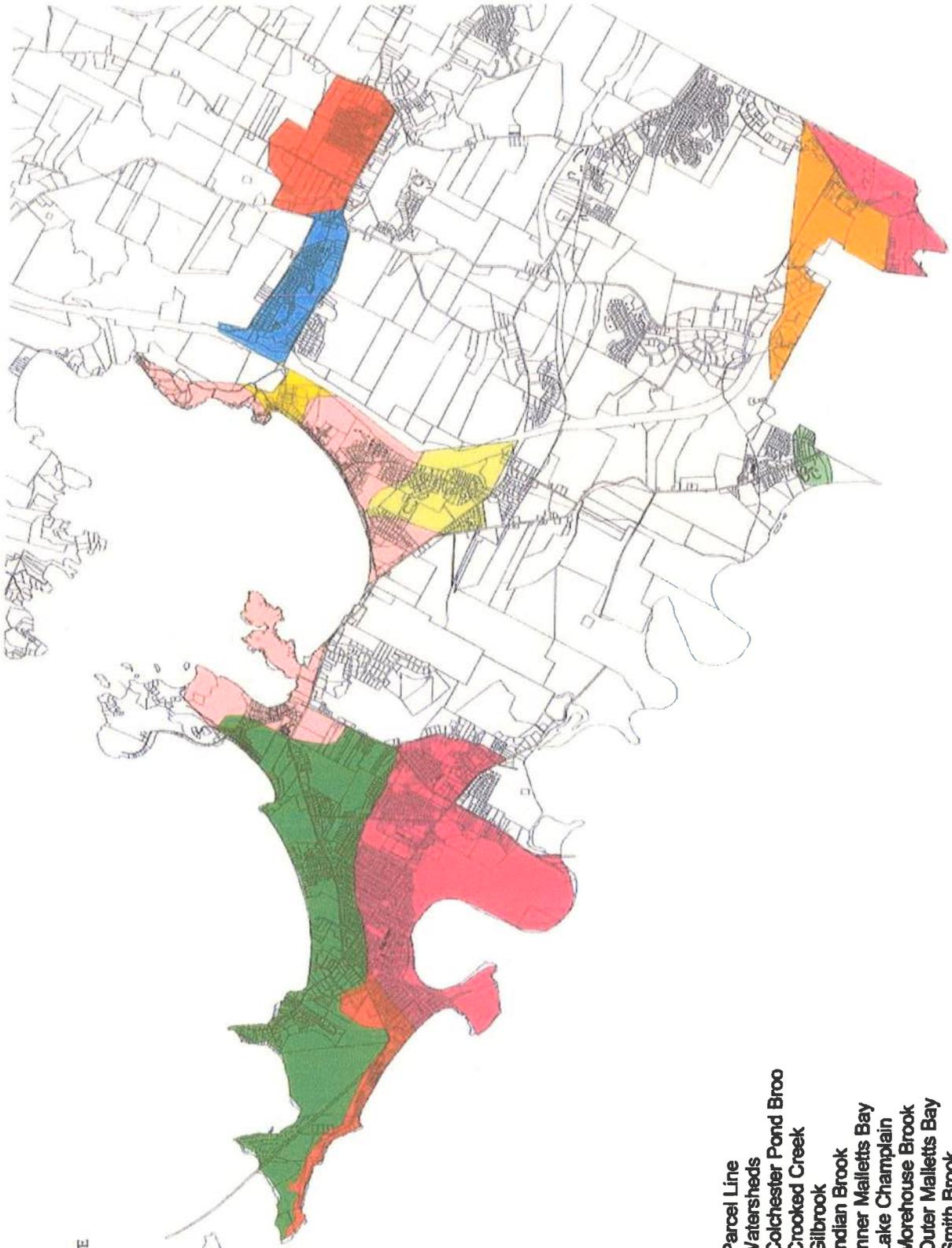
For additional materials that you may find useful, please visit our website at [www.colchestervt.gov/PublicWorks/Stormwater.shtml](http://www.colchestervt.gov/PublicWorks/Stormwater.shtml). Here you will find our NPDES Phase II MS4 General Permit. This is a federal permit we are required to maintain. This document contains our plan that demonstrates compliance to this permit. You will also find our Illicit Discharge Detection Plan and our Storm Water Ordinance. Please feel to look around our site where you will find other useful and interesting information.

Again, thanks for all of your help. Please feel free to contact me anytime at 264-5625 with any questions.

Bryan K. Osborne  
Director of Public Works

## Storm Water Watch Group

<u>Watershed</u>	<u>Representative</u>
1. Inner Malletts Bay	Tom Berry Moe Germain Anita Socinski
2. Smith Brook	Jeff Barton
3. Colchester Pond Brook	Betsy Orselet
4. Winooski River	Evan Fitzgerald Marc Landry
5. Crooked Creek	Harlan Lachman
6. Indian Brook	Jean Osborne
7. Sunderland Brook	Meg McGovern
8. Morehouse Brook	Sherry LaBarge
9. Outer Malletts Bay	Tracy Byrnes
10. Gilbrook	Alan Dicinson
11. Lake Champlain Watershed	Pam Loranger Buzz Hoerr



- Parcel Line
- MS4 Watersheds
- Colchester Pond Brook
- Crooked Creek
- Gilbrook
- Indian Brook
- Inner Malletts Bay
- Lake Champlain
- Morehouse Brook
- Outer Malletts Bay
- Smith Brook
- Sunderland Brook
- Winooski River

## Warner Rackley

---

**From:** mnhinc <mnhinc@comcast.net>  
**Sent:** Tuesday, March 18, 2014 9:16 AM  
**To:** Warner Rackley  
**Subject:** FW: CCC report for town annual report  
**Attachments:** Rain barrel 2013 (3).JPG; Leaf drop 2013 (12).JPG; Col Blooms 2013 Bayside fence (5).JPG; Col Blooms 2013 Bayside fence (6).JPG; Col Blooms 2013 Senior Ctr (7).JPG

Warner,  
This was sent to June Campbell but I think it has all the info you need.  
Let me know if there is anything else I can help you with.  
Theresa Carroll

### CONSERVATION COMMISSION REPORT FOR FY-13

By Theresa Carroll, chair

During FY-13 the Conservation Commission undertook several projects to help beautify the town and protect and preserve its natural resources.

One of its primary projects, Green Up Day, an event that the Commission has organized every year since 1996, attracted 340 volunteers who collected 3.6 tons of trash, 285 tires and 2.5 cubic yards of metal.

Commission members also worked with Colchester Blooms! to solicit donations and spent 20 hours planting more than 1,500 petunias, begonias, calendulas, coleuses and other annuals at several high-traffic spots around town including the flowerbeds at Bayside Park, the flagpole across from the park, the new Bayside Activity Center (formerly the Colchester Senior Center) and the two traffic islands across from the Malletts Bay School. Levinsky Landscaping, a Colchester company, prepared the beds for planting while C & L Property Management watered and maintained the areas throughout the season.

Another ongoing project is the maintenance of the rain garden adjacent to the bike path on Holy Cross Road. The Commission installed the garden, which was designed by former Colchester resident and landscape architect Paul Simon, in 2012 as a means of controlling soil erosion and collecting rainwater runoff.

A total of xx people attended a Do-It-Yourself Rain Barrel Workshop in April, sponsored by the Commission at Bibbens ACE Hardware.

Participants made their own rain barrel and learned how rain barrels conserve water, save money and protect local waterways including Lake Champlain.

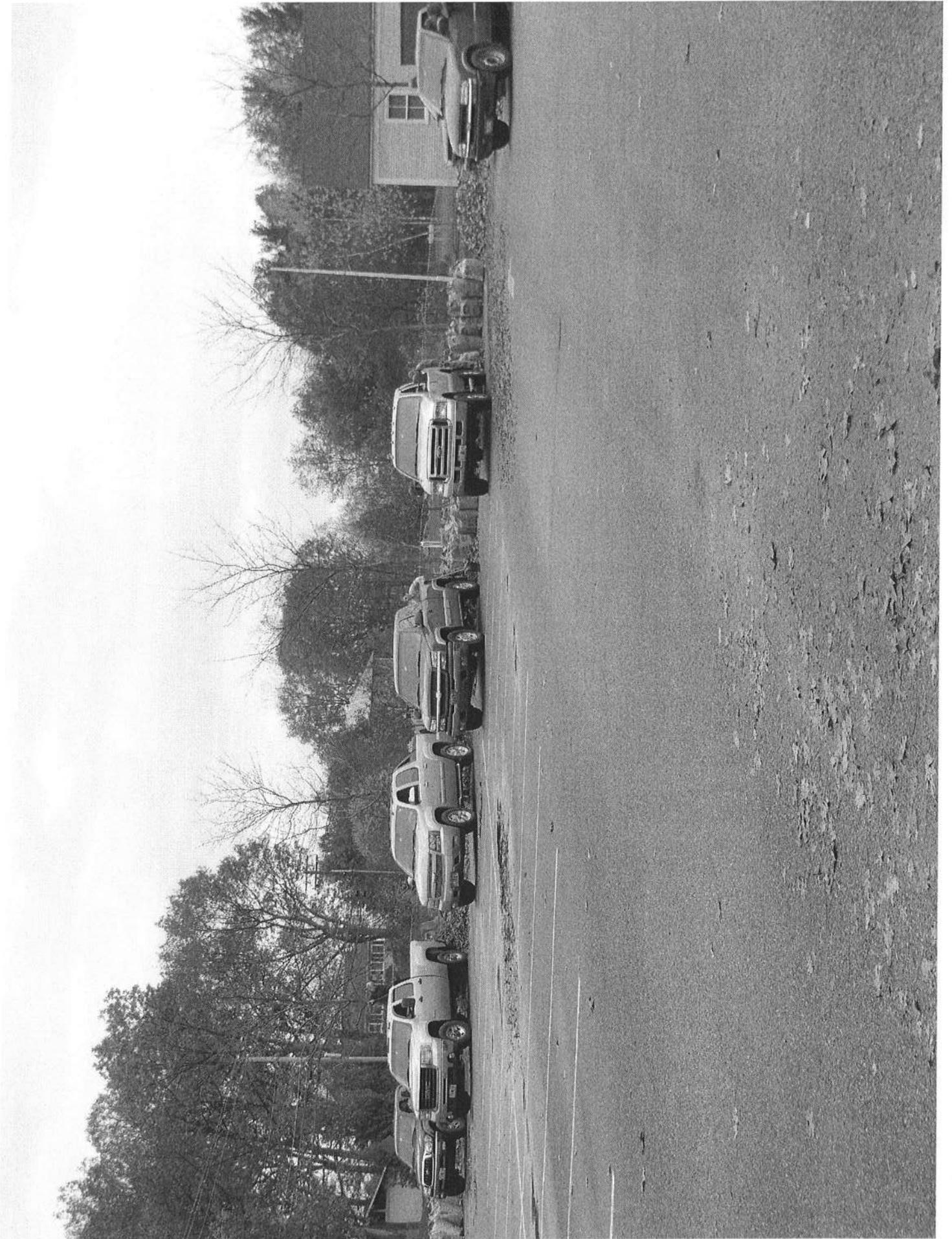
On the first weekend in November, the Commission served as monitors for the annual leaf collection weekend for residents at Airport Park.

The Chittenden Solid Waste District hauled away 12 truckloads of leaves totaling nearly 100 tons, which will be used by Green Mountain Compost in Williston to make compost for sale.

In addition, the Commission also hosted a public meeting with Clary Franko, a solar community organizer from SunCommon in Waterbury Center, who gave a presentation on solar energy for residential homes.

Members also made site visits to Law Island, Delta Park and Sunny Hollow Natural Area to become better acquainted with these sites and their natural resources.





## Warner Rackley

---

**From:** Caitlin Cusack <caitlin.cusack@uvm.edu>  
**Sent:** Thursday, February 13, 2014 5:03 PM  
**To:** Bryan Osborne; Warner Rackley; tgmvt@comcast.net  
**Cc:** Fitzko, Danielle; Elise C Schadler  
**Subject:** Re: Colchester street tree GIS files  
**Attachments:** Colchester Report\_1714.docx

Hi Brian,  
Here you go.  
Best,  
Caitlin

On 2/13/2014 8:59 AM, Bryan Osborne wrote:

Caitlin

Thank you for all of your hard work. I would like the original word document if possible.

Again thanks,

Bryan

---

**From:** Caitlin Cusack [<mailto:caitlin.cusack@uvm.edu>]  
**Sent:** Wednesday, February 05, 2014 10:37 AM  
**To:** Warner Rackley; Bryan Osborne; [tgmvt@comcast.net](mailto:tgmvt@comcast.net)  
**Cc:** Fitzko, Danielle; Elise C Schadler  
**Subject:** Colchester street tree GIS files

Hi Bryan, Warner and Tim,  
It has been a pleasure working with all of you! I'm attaching a zip file containing a GIS geodatabase of the tree data. If you have any trouble with the file let me know. The data can also be viewed online at: <http://bit.ly/J6ZxHN>. I've also attached the PDF of the final report with the edits we discussed at the meeting. Would you like the original word document? It sounds like you're moving forward on the ordinance. Let us know how else we can be of assistance. Tim, I look forward to seeing you next week at the legislative reception.  
Take good care,  
Caitlin

--

Caitlin Cusack  
Community Forestry Outreach Coordinator  
UVM Extension  
655 Spear St.  
Burlington, VT 05405  
Phone (M, T, W, Th): (802) 656-7746  
Email: [caitlin.cusack@uvm.edu](mailto:caitlin.cusack@uvm.edu)

# Colchester Urban Tree Inventory

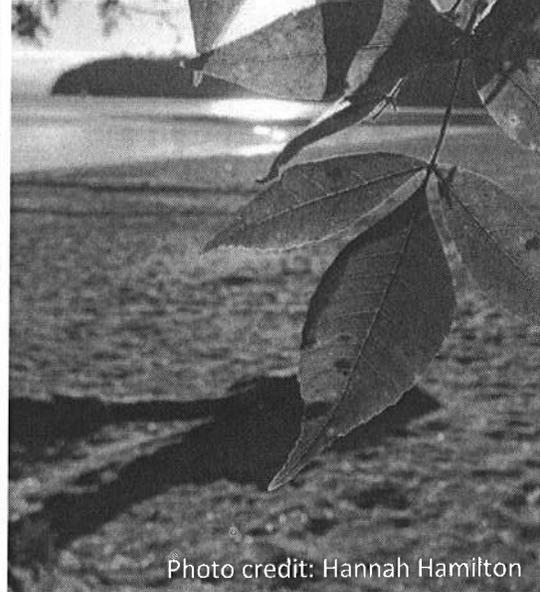


Photo credit: Hannah Hamilton



Photo credit: Lee Krohn

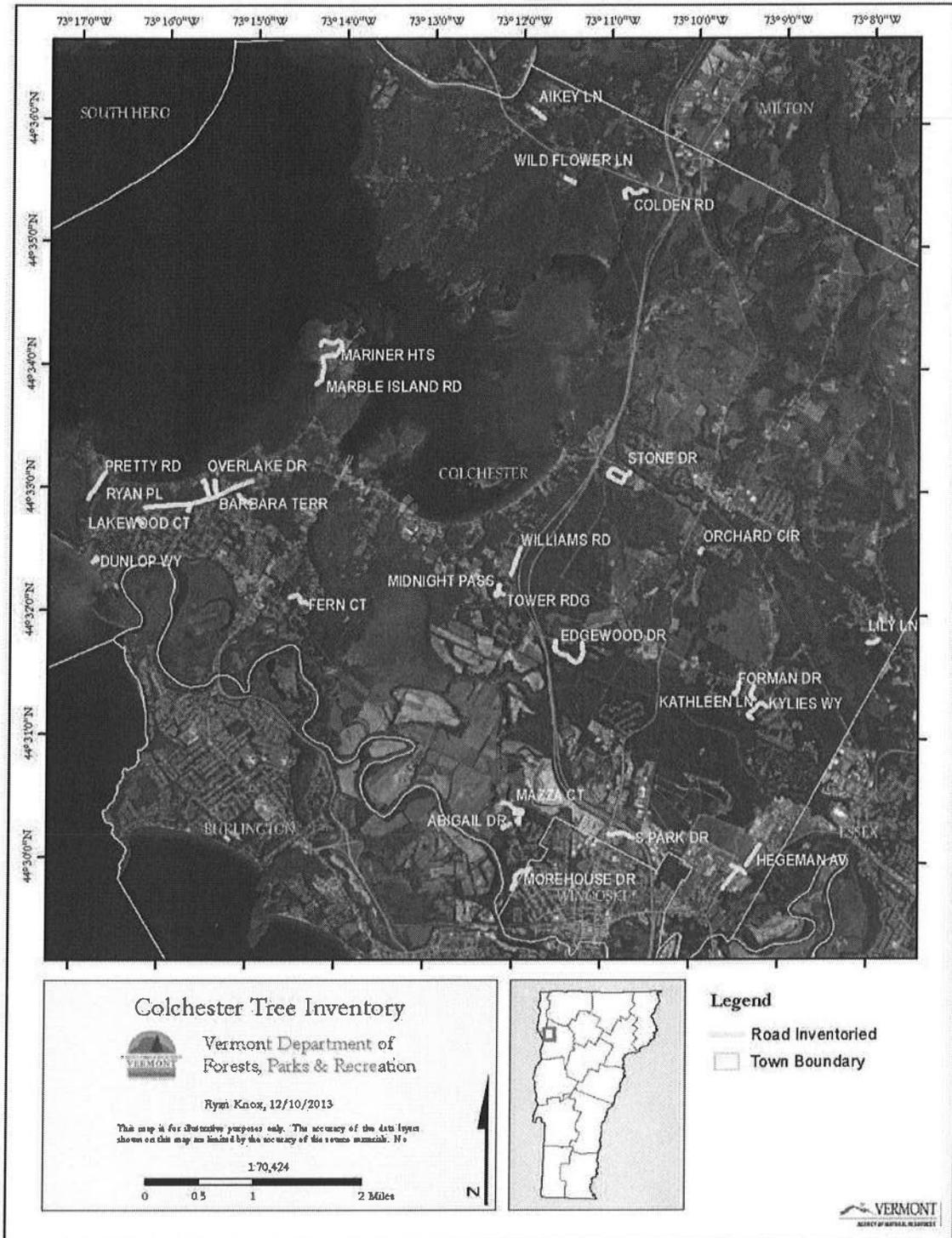


Prepared for the Town of Colchester  
by the Vermont Urban and Community Forestry Program

January 2014



# Appendix I: Maps



## Inventory Results

### Urban Forest Diversity

Of the 663 trees recently planted within the public ROW, there are 35 different species in 22 different genera. The top five most common tree genera: maple (*Acer*), ash (*Fraxinus*), elm (*Ulmus*), oak (*Quercus*) and apple (*Malus*), comprise 80% of the urban forest (Figure 1). The top five most common species: green ash (*Fraxinus pennsylvanica*) (19%), American elm (*Ulmus americana*) (11%), red maple (*Acer rubrum*) (11%), Northern red oak (*Quercus rubra*) (9%) and Norway maple (*Acer platanoides*) (9%) comprise 59% of the stocking (Figure 2). The “Other” category is made up of all the species that consisted of less than 5% of the total percentage of trees inventoried; 27 species in 16 genera were included in this category (see Appendix III for full species list).

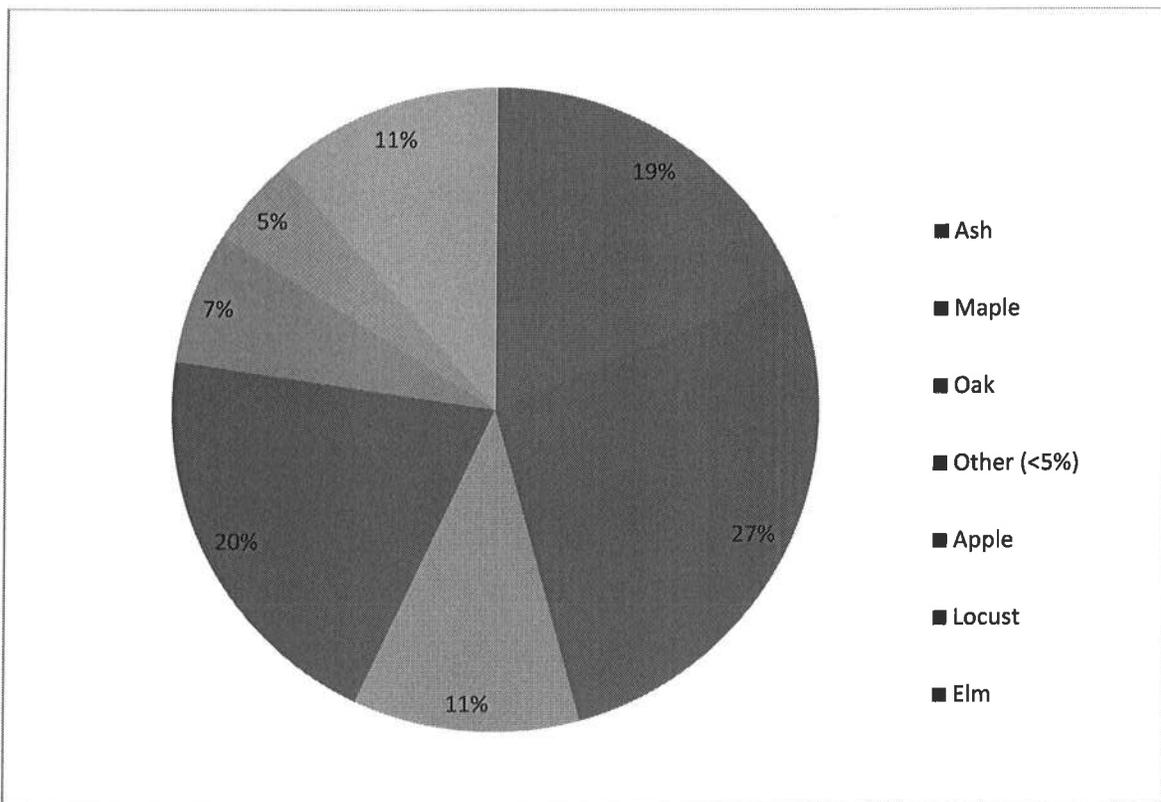


Figure 1. Graph showing tree genus by percent composition. “Other” represents tree species with a less than 5% distribution.

## **Minimum Measure 3**

### **Illicit Discharge Detection and Elimination**

**Attachments:**

1. Information and records relating to the Town's IDDE Program.
2. IDDE information provided to the Colchester Community Development Office for distribution to the business community.

# IDDE Location / Questions / Concerns

**Location**      **ID#**      **State ID**      **Map or Location Concern**      **Directions**

Lexington Road	6	CP1397	Access on Coventry	Down the hill past the work shed and then right of the road after it turns left
Brighton Lane	7	CP1399	Access at 201 Wyndham	Off roadway in ditch area
Coventry Road	8	CP1398		Ditch east of the house next to the shared facilities
Liberty Lane	11	CP1402		Behind home
Foreman Drive	18	CP1428		Ditch east of home
Severance Road	5	OC1483	Access at 12 Woodrose	North of driveway near Severance
Severance Road	48	CP1391	Access off Eagle Park Drive	West of Eagle Park Drive
Young Street				Down hill from culdesac
W. Lakeshore Drive	B3-016		Access along Shore Acres	East of road just before Y
W. Lakeshore Drive	B3-017		In front of International Sailing School	Culvert coming through beach wall
W. Lakeshore Drive	B3-018		Moorings bafflebox	WQ site
1086 E. Lakeshore Drive	C2-001		On lake along E Lakeshore / Camp Tee	Camp Tee culvert
1063 E. Lakeshore Drive	C2-002		On lake along E Lakeshore	Culvert between camps
E. Lakeshore Drive	C2-003		On lake along E Lakeshore	Clay piping between camps
E. Lakeshore Drive	C2-004		On lake along E Lakeshore	Piping through wall
E. Lakeshore Drive	C2-005		On lake along E Lakeshore	Culvert down to beach
230 Stone Drive	C2-006		Retention Pond on Stone Drive	Drain at beginning of pond
230 Stone Drive	C2-007		Retention Pond on Stone Drive	Concrete box at far end of pond
Tower Ridge	C3-002			Ditch between houses
Everbreeze	C3-003			Ditch along Williams behind Evergreen
Blakely Road	C3-004			Retention pond past Lavigne
E. Lakeshore Drive	C3-005		E. Lakeshore	
903 Bay Road	C3-006			
Acorn Lane	C3-018			Ditch south of GMP
Acorn Lane	C3-019			Ditch south of GMP
Champlain Drive	C3-021			Near entrance to old Premier Bus Garage
118 Orchard Drive	C3-025			Behind home
Route 2 & 7 (Shaws)	C4-015		Fountain pond (first drain)	Fountain pond along road
Shaw's	C4-017		Fountain pond (second drain)	Fountain pond along road
Hampton Inn / 189 F	C4-018		Access at Hampton Inn & 189 ramp	Along ramp
Shaw's Back	C4-019		Maps do not match	Behind Shaws near Route 7
Main Street	D3-010		Behind Town Meeting House	Main Street
Fort Ethan Allen	D4-001	OP1497	Behind water company	Behind water supply company
Fort Ethan Allen	D4-003	CP1438	VPR retention pond	West of VPR parking lot

2013

<i>Location</i>	<i>ID#</i>	<i>Date</i>	<i>Flow</i>	<i>pH</i>	<i>OB</i>	<i>E.Coli</i>
Lexington Road	6 / CP1397	11/14/2013	N	7.0		
18 Wyndam	7 / CP1399	11/14/2013	Y	6.8	N	<1
Coventry Road	8 / CP1398	11/14/2013	Y	7.0	N	<1
196 Liberty Lane	11 / CP1402	11/14/2013	Y	6.8	N	1
122 Foreman Drive	18 / CP1428	11/14/2013	N	6.6		
12 Woodrose	5 / OC1483	11/14/2013	N	6.8		
Severance Road	48 / CP1391	11/14/2013	DRY			
Young Street		11/14/2013	N	6.8		
W. Lakeshore Drive	B3-016	11/14/2013	Y	7.2	N	<1
W. Lakeshore Drive	B3-017	11/14/2013	DRY			
W. Lakeshore Drive	B3-018	11/14/2013	Y	7.2	N	55
1086 E. Lakeshore Drive	C2-001	11/14/2013	Y	6.8	N	2
1063 E. Lakeshore Drive	C2-002	11/14/2013	N	Frozen		
35 Bay Road	C2-003	11/14/2013	DRY			
1277 E. Lakeshore Drive	C2-004	11/14/2013	DRY			
Bay Road	C2-005	11/14/2013	DRY			
230 Stone Drive	C2-006	11/14/2013	DRY			
230 Stone Drive	C2-007	11/14/2013	N	6.8		
Tower Ridge	C3-002	11/14/2013	DRY			
Ever Breeze	C3-003	11/14/2013	N	6.8		
Blakely Road	C3-004	11/14/2013	N	6.6		
796 Bay Road	C3-005	11/14/2013	DRY			
903 Bay Road	C3-006	11/14/2013	DRY			
Acorn Lane	C3-018	11/14/2013	DRY			
Acorn Lane	C3-019	11/14/2013	Y	6.8	N	9
Champlain Drive	C3-021	11/14/2013	N	6.8		
118 Orchard Drive	C3-025	11/14/2013	N	6.6		
Route 2 & 7 (Shaws)	C4-015	11/14/2013	N	7.0		
Shaw's 1	C4-017	11/14/2013	N	7.0		
Hampton Inn / I89 Ramp	C4-018	11/14/2013	N	7.0		
Shaw's 2	C4-019	11/14/2013	DRY			
Main Street	D3-010	11/14/2013	DRY			
Fort Ethan Allen	D4-001	11/14/2013	N	7.0		
Fort Ethan Allen	D4-003	11/14/2013	Y	6.6	N	<1

## Illicit Discharge Information

Based upon population density, Colchester Vermont has been designated as an operator of a Phase II regulated Small Municipal Separate Storm Sewer System (MS4), and is required to develop a storm water management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) permit. The development of an Illicit Discharge Detection and Elimination Plan is one of six minimum control measures that are required within the program.

### What is an "Illicit Discharge"?

Federal regulations define an illicit discharge as "...any discharge to an MS4 that is not composed entirely of storm water...." with some exceptions. These exceptions include discharges from NPDES-permitted industrial sources and discharges from fire-fighting activities. Illicit discharges are considered "illicit" because MS4s are not designed to accept, process, or discharge such non-storm water wastes.

### Why are Illicit Discharge Detection and Elimination Efforts Necessary?

Discharges from MS4s often include wastes and wastewater from non-storm water sources. Illicit discharges enter the system through either direct connections (e.g., wastewater piping connected to storm water drains) or indirect connections (e.g., spills or disposal of used paint, oil, etc., into a storm water drain.) The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving water bodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

### Colchester's Storm Water Management Program

The Town's Storm Water Management Program will include the development of an Illicit Discharge Detection and Elimination Plan, as well as, an Illicit Discharge Ordinance. You are encouraged to provide you valuable input into the development of these initiatives. The overall program also contains a strong education component. This education bulletin is one example of the implementation of these efforts. For further information, please visit the following links:

- U.S. Environmental Protection Agency [www.epa.gov](http://www.epa.gov)
- Vermont Agency of Natural Resources [www.anr.state.vt.us](http://www.anr.state.vt.us)

Or contact:

- Town of Colchester, Department of Public Works [bosborne@town.colchester.vt.us](mailto:bosborne@town.colchester.vt.us)

### Sources of Illicit Discharge

- Sanitary wastewater
- Effluent from septic tanks
- Car wash wastewaters
- Improper oil disposal
- Radiator flushing disposal
- Laundry wastewaters
- Spills from roadway accidents
- Improper disposal of auto and household toxics

# Town of Colchester

## Department of Public Works

Presents:

## An Informational Bulletin for Local Business



## U.S. EPA Storm Water Phase II Final Rule

## Illicit Discharge Detection And Elimination Minimum Control Measure

*".....improve the overall quality of life within the community through the development of a superior infrastructure that promotes and encourages planned responsible commercial, industrial and residential growth in a manner that preserves and enhances our environment and natural resources."*

Colchester Public Works  
Mission Statement



1. Ok folks, Corporate says we have some water quality issues to deal with



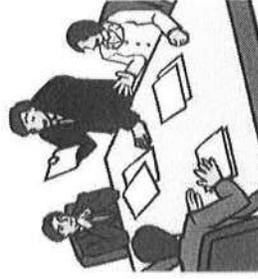
4. What does that mean?



2. So Bob, what is an illicit discharge anyway?



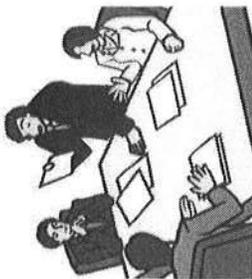
5. Well Bill, it could be things like sanitary waste, improper oil disposal or industrial cleaning products.



3. Bill, it's basically any discharge that is not composed entirely of storm water



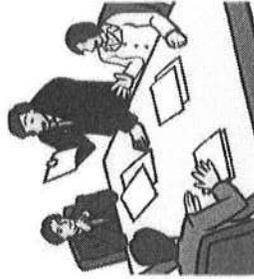
6. Bob, how do these discharges happen?



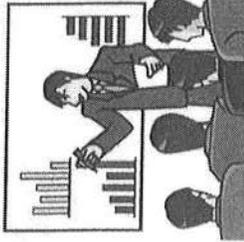
7. Bill, pollutants can enter the storm water system either through direct pipe connections, or spills collected by drain outlets.



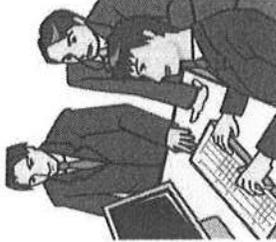
8. So what's the big deal Bob, doesn't it all get treated at the plant?



9. No Bill, storm water doesn't go to treatment plants. It goes directly to rivers and lakes



10. Studies have shown that these pollutants can damage aquatic, wildlife and human health.



11. Hmm, environmental damage, that's not good for business



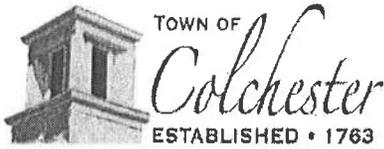
12. Ok, people, lets get to work. I want a plan on my desk by Friday to prevent illicit discharges from our company

## **Minimum Measure 4**

### **Construction Site Storm Water Runoff Control**

**Attachments:**

1. Report of land disturbing activities greater than 1 acre, and greater than 5 acres.



SELECT BOARD  
NADINE SCIBEK  
HERBERT DOWNING  
MARC LANDRY  
THOMAS MULCAHY  
KATHRINE R. NIQUETTE

TOWN MANAGER  
DAWN FRANCIS  
264-5501

DIRECTOR OF PLANNING &  
ZONING  
SARAH HADD  
264-5602

ZONING ADMINISTRATOR  
LISA RIDDLE  
264-5604

ASSISTANT ZONING  
ADMINISTRATOR  
JANE DION  
264-5603

BUILDING INSPECTOR  
DEREK SHEPARDSON  
264-5607

ADMINISTRATIVE ASSISTANT  
LINDA KINGSTON  
264-5606

WASTEWATER OFFICIAL  
DENISE JOHNSON-TERK  
264-5601

FAX NUMBER  
(802) 264-5503

MEMORANDUM

**TO:** Bryan Osborne, Director of Public Works  
**FROM:** Sarah Hadd, Director of Planning & Zoning *SA*  
**DATE:** February 27, 2014  
**RE:** Stormwater Reporting Calendar Year 2013

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Please find attached a spreadsheet enumerating projects advanced to construction for the period January 1, 2013 through December 31, 2013 with more than an acre of land disturbance. In calendar year 2013, the Department issued in total 469 permits and conducted 1,641 inspections including violation investigations.

Should you need any additional information, including copies of the individual permits, please feel free to contact me directly.

<u>Project</u>	<u>Description</u>	<u>Location</u>	<u>Contact</u>	<u>Acreage Disturbed</u>	<u>Impervious Surface Acreage</u>
Barry, Bruce	7 single-family lots	812 Holy Cross Road, Tax Map 47, Parcel 1	David Burke	More than 5 ac.	28.1
Billado, Jeff	Outside storage facility to provide 35 spaces for boats, campers and recreational vehicles	44 Prim Road, Tax Map 40, Parcel 5	Jeff Billado	less than 1 ac.	1.77
Catamount Colchester LLC	30,150 sq. ft. building with two suites	Acorn Lane and Rathe Road, Tax Map 3, Parcel 24-	O'Leary Burke Civil Associates	5 acres	14.57
Forman, Donald & Nancy	1 new lot	714 Severance Road	Forman, Donald & Nancy	less than 1 ac.	1.1
Gazo, Matthew	1 lot	193 Church Road, Tax Map 50, Parcel 46	O'Leary - Burke Civil Assoc.	less than 1 ac.	0.47
Handy, Gabriel & Diane	4 units	524 Church, Tax Map 48, Parcel 17	David Burke	less than 1 ac.	1.5
Handy, Peter	10-room 3,648 sq. ft. motel	155 Porters Point	Peter Handy	less than 1 ac.	1.17
One Source	13,200 square foot office/warehouse.	Brentwood Drive, Tax Map 17, Parcel 3-6.	O'Leary Burke Civil Associates	1 to 5 ac.	3.97
Rivers Edge LLC	9 unit PRD comprised of two duplexes and five triplexes and a 520 linear foot extension of a public road known as Fox Run	Fox Run, Tax Map 7, Parcel 75	O'Leary - Burke Civil Assoc.	1 to 5 ac.	8.9
Snake Alley	35,800 sq. ft., three story office building addition with a 2,750 sq. ft. connector to the existing building, 2) the construction of a 64 space parking lot, and 3) the establishment of a large daycare facility within the existing office building with associated outside play area.	402 Water Tower Circle, Tax Map 3, Parcels 184, 185 and 186	Krebs & Lansing Engineers	less than 1 ac.	5.9

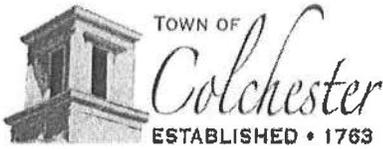
<b>Project</b>	<b>Description</b>	<b>Location</b>	<b>Contact</b>	<b>Acreage Disturbed</b>	<b>Impervious Surface Acreage</b>
SP Cove LLC	alter an existing marina : 1) reconfigure existing drive and parking; 2) reconstruct and flood proof a 330 sq. ft. harbor master building; 3) demolish a 720 sq. ft. storage building; 4) constructing a 720 sq. ft. storage building; 5) reconstruct and flood proof the office/facilities building; and 6) add new landscaping	278 West Lakeshore Drive, Tax Map 65, Parcel 17	Krebs & Lansing Engineers	less than 1 ac.	1.79
University of Vermont & State Health Lab	demolish an existing general office building and construct a two story, 61,606 sq. ft. building to be connected to an existing building to create a multi-tenant research center	208 & 245 South Park Drive, Tax Map 1, Parcels 24-3, 24-4 and 24-5	UVM	1 to 5 ac.	11.98

## **Minimum Measure 5**

### **Post-Construction Storm Water Management in New Development and Redevelopment**

#### **Attachments:**

1. Report of land disturbing activities that resulted in more than 1 acre of impervious surface.



SELECT BOARD  
NADINE SCIBEK  
HERBERT DOWNING  
MARC LANDRY  
THOMAS MULCAHY  
KATHRINE R. NIQUETTE

TOWN MANAGER  
DAWN FRANCIS  
264-5501

DIRECTOR OF PLANNING &  
ZONING  
SARAH HADD  
264-5602

ZONING ADMINISTRATOR  
LISA RIDDLE  
264-5604

ASSISTANT ZONING  
ADMINISTRATOR  
JANE DION  
264-5603

BUILDING INSPECTOR  
DEREK SHEPARDSON  
264-5607

ADMINISTRATIVE ASSISTANT  
LINDA KINGSTON  
264-5606

WASTEWATER OFFICIAL  
DENISE JOHNSON-TERK  
264-5601

FAX NUMBER  
(802) 264-5503

MEMORANDUM

**TO:** Bryan Osborne, Director of Public Works  
**FROM:** Sarah Hadd, Director of Planning & Zoning *SA*  
**DATE:** February 27, 2014  
**RE:** Stormwater Reporting Calendar Year 2013

---

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<u>Project</u>	<u>Description</u>	<u>Location</u>	<u>Contact</u>	<u>Acreage Disturbed</u>	<u>Impervious Surface Acreage</u>
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University of Vermont & State Health Lab	demolish an existing general office building and construct a two story, 61,606 sq. ft. building to be connected to an existing building to create a multi-tenant research center	208 & 245 South Park Drive, Tax Map 1, Parcels 24-3, 24-4 and 24-5	UVM	1 to 5 ac.	11.98

## **Minimum Measure 6**

### **Pollution Prevention/Good Housekeeping for Municipal Operations**

**Attachment:**

1. Sign in sheets, overview, and photo for Employee Training held at Farrell Street Park, South Burlington.
2. Memo documenting MS4 cleaning activities.
3. 2013 MS4 Indicators

10:00 am  
9/19/13

SESSION

NAME

TOWN/ORGANIZATION

Paul LaTrelle

Williston

MARK Russell

"

Roger R Boyle

" "

Anna Martin

Town of Essex

DUSTIN L KEELY

Town of Milton

JAY MADEN

CITY OF WINCHESTER

Eric Bradley

" "

Brian Labarre

" "

Brian Line

" "

ADAM WAHL

" "

GUY LABELLE

" "

Stuart Race

" "

Field Dign

Town of Essex

Jerry Pagnall

" " " "

Rob Green

BURLINGTON DPW

Rick Watson

~~FE~~ Williston

RICK PEET

"

TOM MARTIN

Essex OR

BRIAN ZYG

Town of Essex

Ken Baker

Essex

Bruce Trumble

Milton

JOHN DEVLIN

MILTON

Frank Boyle

Milton

Eric Barkyoumb

Essex

Scott Smith

Colchester

Leon Stokes

Williston

9/19/13

Page 2 10:00am

DANE P. MCGRATH

Colchester

Ken Nichols

Colchester

Doug Landry

Colchester

Warner Rackley

Colchester

Floyd Shersley

Colchester

Alan Mashtare

St. Albans City

Brian Burns

St. Albans City

Steve Brauegon

Town of St. Albans

Corey Gratten

Town of St. Albans

Steven Woodworth

City of Winouski

Kevin McAleer

Town of Colchester

LISA Sheltra

Town of Williston

Megan Mair

City of Burlington

MUNICIPAL EMPLOYEES MS4 TRAINING WORKSHOP-FARRELL PARK  
 12-1:45 SESSION, SEPT 19

Tom DiPietro	South Burlington
Pat Adams	South Burlington
DAVID METZGER	South Burlington
ERNEST Oakes	TOWN OF ESSEX
Thomas Walker	Town of Essex
Bill Mori	South Burlington
GREG MAGNINI	S. Burlington
Milo McCarthy	S. Burlington
Joe Golo	S. Burlington
William LeBeau	S. Burlington
Dani Mearns	S. Burlington
Jim Juras	Essex Junction
Scott Jacobs	S. Burlington
Don Guillemette	S. Burlington
Craig Lambert	S. Burlington
Chelsea Mandigo	Essex Junction
Loren Woodman	Essex Junction
Lacey Lamphere	Colchester
Mike Bismantte	Milton VT
John [unclear]	Colchester



# FARRELL STREET-SOUTH BURLINGTON

- Constructed between 2007 – 2008
- Total project cost ~\$1.4 M.
- Located in Potash Brook Watershed, drains to Shelburne Bay
- Total project captures ~50 acres, ~40% impervious
- Gravel wetland treats .5 acre impervious
- Swirl Separator treats 2.3 Acres, ~80% impervious
- Bio-retention treats 0.22 Acres, ~80% impervious
- Porous Asphalt treats ~2,000 s.f.
- Culvert replacement
- Wet extended detention pond treats 43 acres, ~40% impervious





AM10: 01 SEP/19/2013

# Memo

**To:** Warner Rackely, Assistant Director of Public Works

**From:** Floyd Sheesley, Operations Manager

**Cc:**

**Date:** February 24, 2014

**Re:** MS4 Permit information

---

We currently have 314 catch basins and 58 outfalls associated with 35 Stormwater Permits that are inspected at least annually.

Catch basin cleanings totaled approximately 28 cubic yards of material and the town collected approximately 52 cubic yards of street sweepings last spring and approximately 56 cubic yards of leaf debris in the fall.

<b>2013 MS4 INDICATORS</b>	<b>MS4</b>
CATCH BASIN CLEANING CYDS or #BASINS CLEANED ESTIMATE 1 TON/CY and .6 CYDS/CB	28 CY
STREET SWEEPING (DIRT&LEAVES) CYDS OR #ROAD MILES SWEPT ESTIMATE .17TONS/MILE & 1 TON/CY	108 CY (52 CY- Dirt & 56 CY- Leaves)
GREEN-UP & STREAM CLEAN-UPS #TONS OF TRASH DISPOSED (CSWD-just trash not metals or tires)	3.6 Tons
HAZ WASTES DISPOSED OR REUSED LBS (CSWD JULY-JULY)	
#STORMWATER OUTFALLS SURVEYED	58
#CATCHBASIN INSPECTIONS	314
#STORM DRAINS MARKED	57
#ILLCIT DISCHARGES DETECTED	0
#ILLCIT DISCHARGES ELIMINATED	0
#CONSTRUCTION EROSION SITE INSPECTIONS	1,641
#SITE PLAN REVIEWS FOR SW MANAGEMENT	469
# SW DISCHARGE PERMIT RENEWALS	32
DOLLARS SPENT ON STORMWATER PROGRAM	\$439,697
MUNICIPAL EMPLOYEE TRAINING WORKSHOP ATTENDANCE (HRS)	24.5 Hrs (14 EA @ 1.75 Hrs)
#PET WASTE BAGS DISTRIBUTED	24,000
CHANNEL PROTECTION VOL. CREATED (CUBIC FEET OR ACRE-FT)	

## **Additional Requirements for Discharges to Impaired Waters**

### **Attachment:**

1. Chittenden County MS4 Cooperative Flow Monitoring Program
  - a. Letter of intent dated December 23, 2013
2. Plan for Addressing Expired Permits
  - a. Letter of Intent dated March 20, 2014
  - b. Email for RDA Referrals dated January 9, 2014
3. Impaired Basin Flow Restoration Plan (FRP)
  - a. Town of Essex cover letter for joint request for proposals for FRP consulting services
  - b. Request for Statement of Qualifications and Cost Proposal
  - c. Scope of Services



DEPARTMENT OF PUBLIC WORKS

**Select Board**

Nadine Scibek  
Marc Landry  
Herb Downing  
Kathrine Niquette  
Tom Mulcahy

**Town Manager**

Dawn Francis

**Director**

Bryan K. Osborne  
(802) 264-5625

**Assistant Director**

Warner Rackley.  
(802) 264-5635

**Operations Manager**

Floyd Sheesley  
(802) 264-5621

**Project Manager**

Kevin McAleer  
(802) 264-5639

**Administrative Coordinator**

Robin Parry  
(802) 264-5620

**Fax Number**

(802) 264-5503

December 23, 2013

Ms. Christy Witters  
Vermont DEC  
Watershed Management Division  
1 National Life Drive  
Montpelier, VT 05620-3522

Dear Ms. Witters

The Chittenden County MS4's will cooperatively pursue a MS4 flow monitoring program in compliance with NPDES General Permit 3-9014 section IV.C.1.(e)(7). Participating communities include Burlington, Colchester, Essex, Essex Junction, Milton, Shelburne, South Burlington, Williston, Winooski, Burlington International Airport, University of Vermont and Vermont Agency of Transportation.

This cooperative effort is for the following streams:

Allen Brook (Williston), Bartlett Brook (South Burlington), Centennial Brook (South Burlington), Englesby Brook (Burlington), Indian Brook (Essex / Essex Jct.), Morehouse Brook (Winooski), Munroe Brook (Shelburne), Potash Brook (South Burlington) and Sunderland Brook (Colchester / Essex /Essex Junction)

Compliance will be gained by flow and precipitation monitoring in one of three ways:

1. Work directly with the Agency of Natural Resources for flow monitoring compliance paid for in a fee simple manner.
2. Contract with the United States Geological Survey (USGS) to install, maintain, and collect data and report for all flow monitoring stations according to the timeline attached (Attachment A).
3. Work with the Chittenden County Regional Planning Commission (CCRPC) as lead agency to oversee a contract to install, maintain, and collect data and report for all flow monitoring stations according to the timeline attached (Attachment A).

Please let me know if you require anything further.

Sincerely,

Bryan K. Osborne  
Director of Public Works

## Attachment A

- January 2, 2014 – The Vermont MS4 communities (hereafter referred to as “the MS4s”) submit a schedule to the Vermont ANR that describes how stream flow monitoring requirements found in the MS4 permit will be met. In order to achieve consistency of results, cost savings, and efficiency in management of the new Stream Flow Monitoring Program (SFMP), the MS4’s will work collaboratively to create and implement a single SFMP consistent with requirements found in the approved MS4 permit.
- March 2014 – Vermont ANR approves the SFMP prepared by the MS4s.
- April – June 2014 – The MS4’s create an MOU that specifies cost sharing and project management for the SFMP. The MS4’s create a scope of work that defines the role and responsibilities of the program manager who will oversee stream monitoring efforts. The MS4s create a scope of work for the contractor who will complete stream monitoring activities and report to the program manager.
- July – August 2014 – The MS4’s release an RFP or otherwise take steps to retain a Program Manager for the SFMP. The MS4’s release an RFP to obtain a contractor who would implement the SFMP.
- September - December 2014 – Municipalities will be working on their FY16 budgets (July 1, 2015 through June 30, 2016) and will include funding for stream flow monitoring based on costs received through the previous RFP process.
- February 2015 – April 2015 – Municipal budgets, including funding for the SFMP, are approved for FY16.
- July 2015 – March 2016 – The program manager and contractor begin work on the SFMP. This includes purchasing equipment, establishing data collection sites, collecting stream cross section data, and performing other tasks as necessary to ensure that successful stream flow monitoring data will be generated starting in the Spring of 2016. The MS4s will hold quarterly meetings to review the progress of the SFMP with the Program Manager.
- April -May 2016 – Installation of stream flow monitoring equipment and collection of stream flow data begins in stormwater impaired streams in Chittenden County.

March 20, 2014

**Select Board**

Nadine Scibek  
Marc Landry  
Herb Downing  
Kathrine Niquette  
Tom Mulcahy

**Town Manager**

Dawn Francis

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(802) 264-5620

**Fax Number**

(802) 264-5503

Ms. Christy Witters  
Vermont DEC  
Watershed Management Division  
1 National Life Drive  
Montpelier, VT 05620-3522

Dear Ms. Witters

The NPDES General Permit 3-9014 issued to the Town of Colchester requires that the municipality ...”submit to the Secretary (of the Agency of Environmental Conservation) for approval a plan for addressing expired State stormwater permits discharging to the permittee’s MS4 system.”

The Town of Colchester has reviewed the list provided by the Agency of Environmental Conservation for expired permits discharging to impaired streams within the system. Of the seven individual projects listed, we found that the following four projects would need to be incorporated into the Town’s MS4 Permit:

Permit 1-0052 - Eagle Park Subdivision  
Permit 1-0674 – Shepard/Gardner Subdivision (Wall Street)  
Permit 1-0959 – Hidden Oaks Extension  
Permit 2-1165 – Hidden Oaks Subdivision

Due to the age of the above developments, it was determined that almost all stormwater management facilities were located within publicly maintained streets. It was also determined that no single entity or home owners association (HOA) existed for any to the above developments. Therefore, it was determined that the best course of action was simply to incorporate these permits into the Town’s system.

As for the remaining three expired permits, it was determined that all impervious surfaces and associated treatment facilities were on private property and currently maintained by private corporations and/or HOA groups. It was also determined that the associated discharges flowed directly to the impaired stream without commingling with MS4 flows. These three project areas were as follows:

Permit 1-0609 – Westbury Mobile Home Park  
Permit 2-0762 – Wells Townhome Apartments  
Permit 2-0843 – Meadowood Townhomes (Pheasant Woods)

Based on the above findings, the best course of action for the Town was determined to be referral to the State for application of their Residual Designation Authority (RDA.) Prior to referral, the Dept. of Public Works did reach out to all three projects by contact of association members, management groups, and/or consulting agents. Meetings were held at Town Hall with each group individually to inform them of potential pending requirements. In response to questions

received during these meetings, contact was made with your office in January of this year. Based on those conversations and email correspondence, it is our understanding that the above three expired permits have been added to the Agency's list for RDA application.

Regarding the incorporation of the first four permits into the Town's MS4 Permit, it is our understanding that the process and paperwork for this procedure is still under development and review. Once the procedures have been finalized, the Town fully intends on performing the necessary transfers including fulfilling the associated maintenance and reporting requirements.

Please let me know if you require anything further.

Sincerely,



Warner C. Rackley, PE

Asst. Director of Public Works/Town Engineer

## Warner Rackley

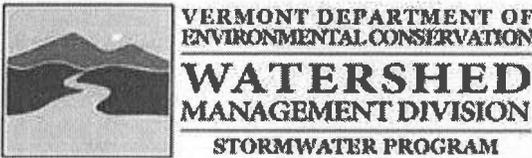
---

**From:** Witters, Christy <Christy.Witters@state.vt.us>  
**Sent:** Thursday, January 09, 2014 12:45 PM  
**To:** Warner Rackley  
**Cc:** Bryan Osborne; Schelley, Emily  
**Subject:** RE: Sunderland expired permits that discharge directly to stream

Thank you, Warner.

Emily will be looking into these permits and we will let you know if we have any additional information. As of now, we will not expect to see RDA petitions for these 3 properties from the Town of Colchester.

Thanks, Christy



**Christy Witters, AICP**  
**MS4 and MSGP Program Coordinator**  
1 National Life Drive, Main 2  
Montpelier, VT 05620-3522  
802-490-6173 / [christy.witters@state.vt.us](mailto:christy.witters@state.vt.us)  
[www.watershedmanagement.vt.gov](http://www.watershedmanagement.vt.gov)

---

**From:** Warner Rackley [<mailto:WRackley@colchestervt.gov>]  
**Sent:** Wednesday, January 08, 2014 9:57 AM  
**To:** Witters, Christy  
**Cc:** Bryan Osborne; Schelley, Emily  
**Subject:** Sunderland expired permits that discharge directly to stream

Christy,

Based on my understanding of your discussion with Bryan this morning, some of the expired permits on the Town's list may in fact be direct discharges that will be RDA'd by the State without any input being necessary from the Town. To confirm that we are all on the same page concerning responsibilities, Bryan asked me to forward a list of these projects with any supporting information I could find that might help clarify private discharges directly to the impaired stream versus those that come along with MS4 flows prior to stream entry.

Based on our inspection and interpretation of the plans, it appears that three of the seven expired permits discharge directly to the impaired portion of Sunderland Brook. Those permits are as follows:

1-0609 Westbury MHP  
2-0762 Westbrook Condos (Wells Avenue Townhomes)  
2-0843 Pheasant Woods (Meadowood Townhomes)

The best information that I could find that clearly shows the discharges for these basins was from GIS maps provided by Emily (see attached.) As you can see on the attached map provided for Westbury, a substantial portion of the park was constructed prior to establishment of permit requirements. All of the permitted areas are along the perimeter of the development away from publicly maintained roadways and are closer to the stream than the earlier phases. Also, all of

the paved roadways within the park outside of Severance ROW are privately maintained. So no discharges from the permitted areas mix with MS4 flows prior to stream entry.

As for the townhomes off of Wells Ave, all flows from buildings and paved areas flow to inlets along the private street and flow to an infiltration pond just upstream of Sunderland. So even if the pond volume is exceeded, overflows will flow directly to Sunderland without mixing with MS4 flows.

As shown on the attached map for Pheasant Woods, there are two basins for this development. The slightly larger portion of impervious surfaces flows to a current permit maintained by the HOA. The remainder of the surfaces discharge through a wooded area to an unnamed tributary. This tributary in turn flows (by-passes) under Eagle Park Drive with no direct connection to stormwater flows along Eagle Park Dr. As a side note, the stormwater discharges for Eagle Park development itself were also covered by an expired stormwater permit (1-0052.) Since Eagle Park Dr is a publicly maintained roadway, the current plan is for the Town to incorporate 1-0052 into the Town's SWMP.

Hopefully, the above information helps clarify that these three permits are direct discharges to Sunderland Brook and will be addressed by the RDA process. If you have questions or have a different interpretation, please give us a call or email.

Thank you,  
Warner C. Rackley, PE  
Asst. Public Works Director  
Town of Colchester  
781 Blakely Road, PO Box 55  
Colchester, VT 05446-0055  
Office: (802) 264-5635  
Fax: (802) 264-5503  
Email: [wrackley@colchestervt.gov](mailto:wrackley@colchestervt.gov)



# TOWN OF ESSEX VERMONT

81 MAIN STREET, ESSEX JUNCTION, VERMONT 05452  
Fax: 878-1353 • E-mail: [manager@essex.org](mailto:manager@essex.org) • Website: [www.essex.org](http://www.essex.org)

10 March 2014

Christy Witters  
MS4 and MSGP Program Coordinator  
Vermont Department of Environmental Conservation  
1 National Life Drive, Main 2  
Montpelier, VT 05620-3522

Christy,

In accord with the NPDES Phase 2 MS4 Permit issued on December 5, 2012, permittees are required to provide the Vermont Agency of Natural Resources verification of progress NLT 1 April 2014, towards development of Flow Restoration Plans for the impaired waterways within their jurisdiction.

The Town of Essex and Village of Essex Junction secured an \$80,000 grant (\$16,000 local share, \$64,000 in grant match) from VTRANS to develop the Flow Restoration Plans for the impaired waterways of Sunderland Brook and Indian Brook. The grant is being administered by the Town of Essex under the VTRANS LTF program. The study will cover the permit requirements within the impaired watersheds not only for the two towns but also for the impacted areas for VTRANS (both streams) and for the Town of Colchester and UVM (Sunderland Brook only).

A "draft" Request for Qualifications and a separate Price Proposal has been prepared and is under review by the affected MS4 representatives. It is anticipated that this review will be completed by March 14, 2014 and the RFQ will go out shortly thereafter. The plan is to have a consultant selected not later than 1 May 2014. A draft copy of the RFQ and Scope of Services will be sent electronically with a copy of this letter.

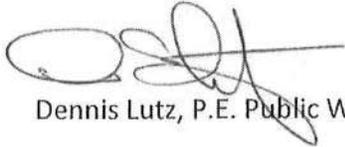
This letter is being forwarded on behalf of the Town of Essex, the Village of Essex Junction, VTRANS, the Town of Colchester and UVM as indicative of required progress under the MS4

TOWN MANAGER	PARKS AND RECREATION	COMMUNITY DEVELOPMENT	PUBLIC WORKS	ASSESSOR	FINANCE	TOWN CLERK	LIBRARY	POLICE
878-1341	878-1342	878-1343	878-1344	878-1345	878-1358	879-0413	879-0313	878-8331

permit towards development of the Flow Restoration Plans for the two impaired streams –  
Sunderland Brook and Indian Brook.

If you have any questions, do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Lutz', with a long horizontal stroke extending to the right.

Dennis Lutz, P.E. Public Works Director

CC: Jim Jutras, Village of Essex Junction  
Jennifer Callahan, VTRANS  
Bryan Osborne, Town of Colchester  
Bill Nedde III, UVM

# Request for Statement of Qualifications and Cost Proposal

## INTRODUCTION

The Town of Essex is requesting Statement of Qualifications (SOQ) and a Cost Proposal to develop a Flow Restoration Plan (FRP) for two impaired waterways – Sunderland Brook and Indian Brook -- on behalf of the MS4 Permittees affected under issued community stormwater permits. The Sunderland Brook impacted permit holders are the Town of Essex, the Village of Essex Junction, the Town of Colchester, VTRANS and the University of Vermont. The Indian Brook impacted permit holders are the Town of Essex, the Village of Essex Junction and VTRANS. A VTRANS LTF Grant has been awarded to the Town of Essex and the Village of Essex Junction to fund the development of Flow Restoration Plans, with the Town of Essex acting as the program manager/administrator for the entire project. The selection of the Flow Restoration Plan Consultant will be through a Qualifications Based Selection (QBS) process as required under the LTF Program.

**In order to reduce the time involved in the selection process, firms will be required to submit a sealed Statement of Qualifications and a sealed Cost Proposal with estimated costs for preparing the Flow Restoration Plans. The selection process will consist of two phases with the first being an evaluation of the Statement of Qualifications and a rating of those proposals. Upon completion of Phase 1, the sealed Cost Proposals will be opened and evaluated.**

The successful firm/contractor will be selected based upon their demonstrated ability to provide the highest qualified team to achieve the goals of the project through their SOQ at reasonable costs. This Request for Proposals does not obligate the Town of Essex to award a contract.

The Statement of Qualifications should be a narrative that best represents the firm's qualifications to perform the FRP assessment. The submittal must include the proposed project team, demonstration of technical abilities that qualify you for the work requested, examples of previous projects of a similar nature, breakdown of time proposed for components of the project, references with current contact names and phone numbers, and any other information that considered appropriate to the work. The submittals should not contain peripheral information on other projects or work not related to the type of work requested under this RFQ.

The evaluation of proposals shall be considered by a working group consisting of representatives from each of the impacted MS4 permit holders. Formal rating of the proposals shall be made by a Team consisting of representatives from the Town of Essex, the Village of Essex Junction and VTRANS , since the majority of future, needed improvements in the impaired watersheds is most likely to impact those permit holders.

## **BACKGROUND**

The Town of Essex, the Village of Essex Junction, VTRANS, the Town of Colchester and UVM are Municipal Separate Storm Sewer (MS4) permit holders. MS4 permit provisions require cooperative effort in developing a flow restoration plan for each impaired watershed. The Town of Essex and Essex Junction have formed a Joint Stormwater Advisory Committee as a preliminary step in addressing these permit requirements on a community-wide basis for consistency and fairness to the property owners of our communities. This Flow Restoration plan serves as the basis for implementing permit provisions to return Indian and Sunderland Brooks to attainment flow targets in the most cost effective way. This will also be a living document for future needs should the attainment target change through the adaptive management provisions of the permit.

The MS4 Permit holders have an excellent working knowledge of current discharges and existing stormwater systems within the impaired watersheds. This knowledge will be used in a collaborative effort with the selected firm to identify the most viable systems for inclusion in the Flow Restoration Plans. The intent is to develop in concert with the selected firm very site specific recommendations for inclusion in the watershed modeling effort. The intent of this work is not to develop broad-based and generalized options comparing many potential BMP's but to develop a focused study aimed at realistic and implementable alternatives to meet the TMDL requirements.

This SOQ is for a FRP analysis of opportunities within the impaired stream boundaries to capture the required flows as allowed through the stormwater management manual (as amended) and by other permit and non-permit required means. The final report shall also include a proposed sequence of prioritization for construction. Factors for consideration are noted later in this document.

All work will be performed in accordance with the most recent versions of the following:

- Vermont Stormwater Design Manual (as amended)
- VT DEC BMPSS Watershed Model for flow targets
- VANR Stormwater Feasibility Analysis (EFA)
- MS4 3-9014 permits and Notice of Intent to Comply filings from each entity
- VTRANS Specification for Construction
- Mapping of stormwater systems provided by the appropriate MS4 permittee for all discharges and piping within the flow area of the impaired stream watershed
- Village of Essex Junction Land Development Code
- Town of Essex Development Codes and Stormwater Ordinance
- Current TMDL for Sunderland and Indian Brooks

## **SUBMITTAL REQUIREMENTS**

Five (5) paper copies of the sealed Statement of Qualifications and Five (5) separate copies of the sealed Proposed Scope of Services as well as one copy of each in PDF format shall be submitted to the Town of Essex Public Works Offices, Attn. Dennis Lutz,

P.E. 81 Main Street, Essex Junction, VT 05452, by 1:00 pm on March 31, 2014. Fax transmittals and electronic only submittals are not acceptable. Any proposal submitted after the stated deadline will not be considered. All proposals submitted will become the property of the Town of Essex upon submission. All expenses for the preparation of a package for consideration shall be at the sole expense of the firm.

The Statement of Qualifications shall include the following items:

**a) Identification and Technical/Management Qualifications of the Project Team**

- 1) Members and organization of the Project Team
- 2) Principle member of the Project Team responsible for development of the Flow Restoration Plan as required under this proposal
- 3) Experience of all members of the project team and the firm with emphasis on development of Flow Restoration Plans or related Water Quality Planning Efforts.
- 4) Identification of the degree to which the assigned Team members have worked together on similar projects.
- 5) Identification of other Flow Restoration Plans for which any member of the project team is already committed

**b) Project Understanding/Approach:**

- 1) Include an explanation of the firm's understanding and approach to the project.
- 2) Indicate how the Project Team will interact with the MS4 team members
- 3) Identify what efficiencies/techniques will be used to assemble and develop the available information needed to develop the FRP

**c) Firm's Prior Experience With Regard to Product Delivery (References):**

- 1) Provide a list of current or recent owners (at least five) for whom the firm has provided similar water quality planning efforts, Flow Restoration Plans, or stormwater modeling efforts.
- 2) Identify the name of the owner, the topic of the work, the cost of the study, a contact person from the owner familiar with your work with phone number and email address, whether or not the works was completed within the timeline of the contract, and whether or not the project was completed within estimated costs at the start of the contract.

**d) Estimate of Man-hour effort to complete the Flow Restoration Plans and Proposed Schedule**

- 1) Provide a summary of man-hours separately for each Flow Restoration Plan – (i.e., one for Sunderland Brook and one for Indian Brook).
- 2) Provide a project schedule covering the major work items, to include the appropriate timing of meetings, anticipated document review time and anticipated time for submittal to and review by VANR on the VTDEC Watershed model for TMDL attainment under the TMDL for the stream.

**e) Use of Subconsultants:**

- 1) Any subconsultants to be used shall be identified in the Statement of Qualifications and the reason noted for utilizing the subcontractor's services.
- 2) Subconsultants shall provide the same information as required of the primary firm

**The Proposed Cost Proposal shall include the following item:**

**A summary of work hours separately for each Flow Restoration Plan – (i.e., one for Sunderland Brook and one for Indian Brook) – with identification of all costs and expenses, as well as a total covering all the services to be provided.**

### **SELECTION CRITERIA**

Each proposal shall be evaluated on the following ranking criteria based on a 100 point maximum score:

Review Criteria	Weight	Maximum Points	Weighted Points
Qualifications/Experience/ of the Project Team	5	5	25
Availability of the Project Team	3	5	15
Project Understanding/Approach	5	5	25
References	4	5	20
Schedule	3	5	15
total			100

The selection rating committee will include: The Essex Public Works Director, the Essex Junction Water Quality Superintendent, and a representative from VTRANS. Each member of the rating committee will score and rank each proposal independently. Individual rankings will be tabulated and then the rating committee and a representative from the Town of Colchester and from UVM will meet to discuss and determine the final scores and ranking.

The Selection Committee may interview the top three firms if it is deemed necessary in order to choose the highest qualified firm. Upon completion of any interviews, if deemed necessary, the Cost Proposals shall be opened and evaluated. Negotiations will begin with the top-ranked firm. If a scope of work and fee cannot be agreed upon within a reasonable time, negotiations with the top-ranked firm will be concluded and negotiations with the second-ranked firm will be initiated. If a satisfactory contract is not worked out with this firm, then this procedure will be continued until a mutually satisfactory contract is awarded.

### **Contract Requirements**

The Consultant, prior to being awarded a contract, shall apply for registration with the Vermont Secretary of State's Office to do business in the State of Vermont, if not already so registered. The registration form may be obtained from the Vermont Secretary of State, 109 State Street, Montpelier, VT 05609-1104. The fee is \$20.00. The telephone number is (802) 828-2386. The contract will not be executed until the Consultant is registered with the Secretary of State's Office. The successful Consultant will be expected to execute sub-agreements for each sub-consultant named in the proposal upon award of this contract.

A completed copy of the Agency's Form AF38 will also be required prior to being awarded a contract. One copy of this financial information for the prime consultant as well as one copy of the financial information for each firm designated as a sub-consultant. The information submitted shall meet the requirements of Form AF38 at a level commensurate with the anticipated magnitude of each sub-consultant's proposed work. Complete audited financial statements, balance sheets, etc. **do not** need to be submitted, if that information is on file with VTRANS. Please note in the SOQ if this information is on file with VTRANS..

### **All prospective consultants and sub-consultants must be on the VTRANS qualified list, or found eligible for addition to that list.**

The Consultant awarded this contract shall be responsible for furnishing the Town with independently prepared, properly supported indirect cost rates in accordance with the cost principles contained in 48 CFR Part 31 for all time periods covered by the contract.

It is expected that all consultants will make good faith efforts to solicit DBE sub-consultants.

Prior to beginning any work, the Consultant shall obtain Insurance Coverage in accordance with the Consultant Contract Provisions located in the Local Transportation Facilities Guidebook. The certificate of insurance coverage shall be documented on forms acceptable to the Town.

### **Appeal Process**

If the award of the contract aggrieves any firms, they may appeal in writing to the Town of Essex Selectboard, 81 Main Street, Essex Junction, Vermont 05452. The appeal must be post-marked within fourteen (14) calendar days following the date of written notice to award the contract. Any decision of the Town Selectboard is final.

All questions related to this RFQ shall be directed to the MPM, Dennis Lutz, P.E., Town of Essex, 81 Main Street, Essex Junction 05452, Phone (802) 878-1344 or by email, [dlutz@essex.org](mailto:dlutz@essex.org).

Sincerely,

Dennis Lutz, P.E., Public Works Director  
Municipal Project Manager

# SCOPE OF SERVICES

## General Information:

This scope of services covers the preparation of two separate Flow Restoration Plans (FRP) – one for the water-quality impaired section of Sunderland Brook and one for the water-quality impaired section of Indian Brook -- as required by the NPDES Phase 2 MS4 Permit issued in December to a number of MS4 permittees. The Sunderland Brook FRP includes the MS4 permits issued to the Town of Essex, the Village of Essex Junction, VTRANS, the Town of Colchester and UVM. The Indian Brook FRP involves the MS4 permits issued to the Town of Essex, the Village of Essex Junction and VTRANS.

The purpose of this request for a scope of services is to establish a basis for and identification of the most cost-effective water-quality improvement projects within each watershed. Identified improvements will, in combination, exceed stream restoration requirements with a factor of safety to be determined between the consultant and the MS4 permittees. The required TMDL requirements of each impaired watershed must be met or exceeded. The final restoration requirements are under an adaptive management program administered by the State. The scope of this evaluation extends to evaluating peak flow reduction and minimum flow maintenance using groundwater infiltration beyond the basic compliance with the current flow models. The alternatives analysis shall also include all potentially viable projects- public, private, permitted or unpermitted discharges -- within the MS4 permittees jurisdiction such that the MS4 permittees can adjust priorities should the compliance goal move under the adaptive management scenario.

The scope of services assumes that the consultant will not maintain a working copy of the VANR Best Management Practice Decision Support System (BMPDSS) tool in their office and that all BMP data will have to be submitted to ANR for processing. Consultants who intend to maintain their own working copy of the BMPDSS tool will need to make appropriate changes in the scope of work in their submission. Also any consultant who maintains a separate BMPDSS will need to provide certification to the Town of Essex in their reply to this RFQ and Price Quotation that their separate BMPDSS tool is in full compliance and synchronization with the VANR system.

All electronic files, supporting data, GIS layers and documents generated by the selected consultant in the performance of this contract shall become the property of the MS4 Permittees who are parties to the two identified FRP's. The selected consultant may retain copies of all documents for their own files.

An important element of this scope of services is the information, data and collective stormwater system history that has already been identified and collected by each MS4 permittee. Close contact and coordination between the designated representatives from each of the key MS4 permittees and the selected consultant is

critical to the success of the project. All administrative matters pertaining to the contract shall go through the designated representative for the Town of Essex. Technical questions relating to a specific stretch or element of the impaired waterway need to be directed to the appropriate MS4 permittee. Questions of a watershed nature or involving more than one MS4 permittee need to be directed to the appropriate combination of MS4 permittees. A list of principal contacts is provided in Appendix A. All communication will provide a carbon copy to the MPM.

Two working committees will be established for the successful prosecution of this work. Committee #1 will consist of the selected consultant and the MS4 permit representatives involved with Indian Brook; Committee #2 will consist of the selected consultant and the MS4 permit representatives involved with Sunderland Brook. Whenever there is a need for both committees to meet, the meetings will be scheduled back to back.

## **TASKS:**

### **Item 1: Initial Coordination meetings**

#### **1.1 Meet with the two MS4 Committees in a joint meeting**

Meet to refine the scope of work and project schedule prior to starting work.  
Review all work and information that is available prior to starting the work.

#### **1.2 Meet with VANR**

Meet with VANR staff to discuss work flow processes associated with submitting data for use with the BMPDSS. The consultant should also discuss requirements and formats for submittal of a final FRP. The consultant will review the project schedule approved under this RFQ so that VANR can anticipate and plan for BMPDSS data submissions. Notice of the meeting shall be provided to members of the MS4 Committees.

#### **1.3 Provide an electronic summary to the MS4 permittees of the results of discussions with VANR**

### **Item 2: Evaluate existing baseline and credit model and create current baseline and credit model if different from the baseline model**

#### **2.1 Review data in the existing baseline model**

Review all data VANR used to develop the baseline model for both Indian and Sunderland Brooks. Verify the accuracy of the data. Determine if there are any BMP's that currently exist in the watershed or are under construction that are missing from the VANR baseline model. The consultant will collect any information necessary to add missing BMP's or BMP's with errors to the existing model and submit this information to VANR for inclusion in the model, using the prescribed VANR format (see Appendix B). The consultant will provide the committee members with updated model results that include all the BMP's that currently exist in the two watersheds.

#### **2.2 Review all VANR information relative to any offset credits that have been identified within the impaired watersheds and how these credits**

could be applied to meeting the TMDL targets.

### **Item 3: Identify and define possible stormwater BMP's**

#### **3.1 Create a list of possible locations for stormwater BMP installations that are appropriate and potentially feasible.**

Work closely with each MS4 permittee to identify areas within the two watersheds where BMP's could be installed. The BMP's that are identified could include a significant collection of small scale retrofits; however, the emphasis should be on those locations and BMP's that can provide the most significant impact on improving water quality at the lowest cost that are also most likely to be easily implemented.

BMP's that are selected for inclusion in the lists must meet the design standards approved by VANR. If the design standards change during the project, the consultant shall make a "good-faith" attempt to incorporate the new standards into the evaluation. Evaluation of green infrastructure should be included in this task.

The consultant shall use the resources identified in this RFQ as guidance. In some cases, additional treatment beyond the treatments outlined in the guidance documents may be needed to meet the TMDL targets.

The consultant will conduct interviews with individuals who have "on the ground" knowledge of the area where possible BMP's have been identified for placement. The consultant will conduct site investigative visits to each identified potential BMP site and review records as necessary to confirm that there are no obvious factors that would prohibit the installation of BMP's in the proposed locations.

The Town of Essex will provide GIS support within the boundary of the Town and Village to provide existing GIS data information to assist in these site analyses.

The consultant will identify opportunities where runoff generated by multiple discharges as well as opportunities across MS4 permittee responsibility can either be brought to a single location for treatment and detention. In addition, evaluation shall be made of opportunities where flow goals could be met by capturing more runoff (i.e., more impervious) at one location to offset impervious at another location in the impaired watersheds where a BMP would be more expensive or difficult to install.

The consultant will provide a summary of all the potential, viable locations both in a table format and visually through mapping (GIS based) or other suitable presentation mechanisms.

#### **3.2 Work with VANR to update future growth allocation under the TMDL for inclusion in the FRP's.**

The TMDL approved by VANR assumes future growth in the watersheds. This growth factor needs to be clearly defined so the affected MS4's can understand and deal effectively with future growth under the final approved FRP's. An intent of the study is to develop and understand future development of offset capacity.

### **3.3 Determination of Relative Importance of a Selected BMP/Location**

The consultant shall provide a methodology to indicate the relative significance of a particular BMP and location in relation to the TMDL target. The intent is to provide each MS4 with an indication of the relative degree to which a particular recommended improvement (i.e. specific BMP at a specific location) contributes to meeting the overall TMDL for the watershed. It is anticipated that the process to develop a final FRP will be iterative in nature with not every site recommendation being implementable. Understanding the relative importance of a recommended site improvement to the overall TMDL attainment will allow for flexibility in determining the final list of BMPs to be built under the FRP's.

### **3.4 Review of Work under items 3.1, 3.2 and 3.3**

The consultant shall meet with each of the two respective Committees to refine the list of BMP's and locations to determine if the list is complete and if further data collection or design/development efforts are needed prior to creating the input data for the BMPDSS.

### **3.5 Create BMPDSS model input data**

The consultant shall develop the BMPDSS model input data for the selected BMP's. data must be in a format approved by VANR for their inclusion in the BMPDSS tool (See Appendix B).

### **3.6 Submit BMP data inputs to VANR**

Submit the BMP data to VANR. Obtain model results from VANR and analyze for accuracy and compliance with TMDL targets.

### **3.7 Review and Discussion of Model Output**

The consultant shall meet with the two committees to discuss and review the model outputs

## **Item 4. Refine Model Outputs**

It is anticipated that final identification and selection of BMP's will be an iterative process with 100% success unlikely on the first model run. As such the work tasks outlined in Section 3 will be repeated as necessary until flow targets identified in the TMDL are met and the target results accepted by VANR and the two committees. For the purpose of this RFP, costs shall be identified and included in the Cost proposal for running at least two iterations of the model beyond the initial model run. The cost for each iterative run needs to be identified such that if less runs are needed or more runs are needed, the cost for more or less model runs is clearly identified.

## **Item 5. Preparation of the Flow Restoration Plans**

### **5.1 FRP Development**

Following the Committee's acceptance of an optimized list of BMP's that meets the TMDL targets, the consultant will prepare a "draft 'FRP for each of the two impaired waterways. The Committees will then review this work with the Consultant, provide input as to proposed construction schedules and

funding, for the Consultant to incorporate into a final draft FRP to submit to VANR. The final FRP's must contain all the elements required in the VANR 2012 Issued MS4 permits (see Appendix C). An important element of the FRP is the development of estimated costs for each of the BMP's/locations on the accepted list.

#### **5.2 FRP Review and Approval**

A draft FRP will be submitted for review for each impaired waterway. The draft plan should include the specific list of BMP projects, the future growth analysis plan, and costs for each of the BMP's. A review will be conducted by each committee and the consultant will update/modify the RFP as appropriate based on the review comments.

#### **5.3 FRP Review by VANR**

The consultant will submit an updated draft of the FRP's to VANR for review and comment. VANR comments and consultant draft response will be shared with the committees for review and input prior to the consultant finalizing the FRP's under 5.2.

#### **5.4 Finalizing the FRP's**

The FRP's will be revised by the consultant based on comments by the committees and VANR. The final version shall be prepared both in hard copy and in digital format suitable for the MS4's to post on their web pages. It is anticipated that each MS4 will require 4 hard copies of the final document and VANR 3 copies.

### **ITEM 6 Schedule for Work Completion**

The MS4 Permittees have a due date under the issued permit to complete the FRP's and report to VANR on the completion by October 1, 2016. Significant lead time will be needed by each MS4 to review the completed FRP's with the governing bodies responsible for implementing the FRP's and developing a funding timetable for the needed improvements.

It is anticipated that work under this project will commence during May of 2014. The completion date under this Scope of Services is 9 months from an issued order to proceed with the work.