

Town of Williston
7900 Williston Road
Williston, VT 05495

1763

Public Works
(802) 878-1239

TOWN OF WILLISTON

LETTER OF TRANSMITTAL

To the Attention of: *Christy Whitters*
Date: *March 22, 2013*
Subject: *MS 4 Annual Report*

Comments:

Christy,
Enclosed is the Town of Williston's Annual MS4 report. We are looking forward to revising the Stormwater Management Plan to incorporate the new MS4permit.

I will send out a hard copy in the mail today as well.

Please contact me if you have any questions regarding our annual report.

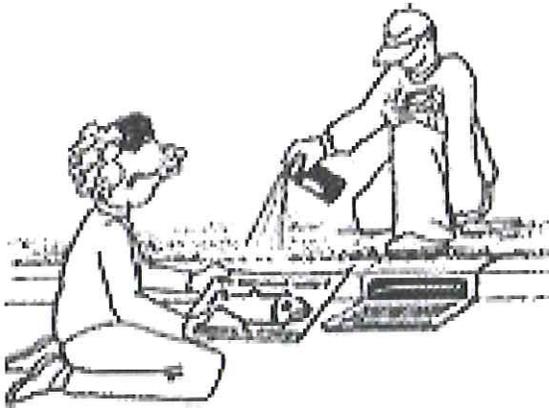
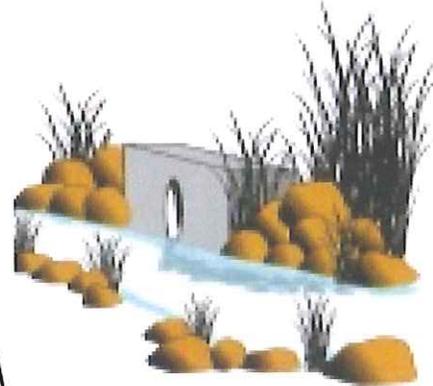
From: *Lisa M. Sheltra*

Phone Number of Sender: *802-878-1239*

Town of Williston

Small Municipal Separate Storm Sewer Systems

2012 Annual Report Summary



March 22, 2013
Town of Williston
7900 Williston Road
Williston, Vermont 05495
(802) 878-1239

Town of Williston - Annual Stormwater Management Report –2012

It is required by Section 5.3 of General Permit 3-9014, under which Williston operates as a Small Municipal Separate Storm Sewer System (MS4), that a report summarizing the Town's stormwater management efforts be reported to the Agency of Natural Resources yearly. This testimony itemizes the six Minimum Control Measures (MCM) required by the general permit as presented in the *Stormwater Management Plan* adopted by the Town in 2008. It also discusses the implementation of each of the minimum control measures during 2012.

MCM 1 – Public Education and Outreach

4.2.1.1 of the General Permit states. "You must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff."

BMP 1 – Website

In 2012 the town's stormwater webpage continued to be updated as a subset to the Public Works website. Links and documents associated with Stormwater Management Planning, Stormwater Education and Outreach, Water Quality Monitoring, IDDE Monitoring, Stream Geomorphic Assessments, Municipal Infrastructure Maintenance, Stream Buffer Protection, Williston's NOI, and stormwater related implementation projects are all available on the website and were updated as needed throughout the year. For the 2012 calendar year, Google Analytics tracked a total of 232 page views, including 123 views on the "Stormwater" main page, 77 views on the "Stormwater Projects in Williston" page, and 37 views on the "MS4 Annual Reporting" page. Williston's stormwater web pages can be accessed at http://willistonvt.govoffice3.com/index.asp?Type=B_BASIC&SEC={ACC6B21E-0FDB-497F-8A5A-62CDDFF871272}

What Will Be Done in 2013?

Maintenance and improvements will continue in 2013. The web site will be revised as necessary to incorporate the new MS4 permit. Google Analytics will continue to track usage.

BMP 2 - RSEP

The Town of Williston participates in the Regional Stormwater Education Program (RSEP) and partakes in regular scheduled meetings and informational sessions. The Town signed a 5 year Memorandum of Understanding (MOU) to continue to partner with the other MS4 agencies in the RSEP program until 2013 and providing a predetermined subsidy to make this program successful. The Town will continue to set appropriate funds aside and contribute to this informative group.

RSEP's "Smart Waterways" website may be found at <http://www.smartwaterways.org/>. A summary from Marketing Partners for advertising activities in 2012 is attached see Attachment A.

What Will Be Done in 2013?

Williston will continue to implement MCM 1 through financial and active participation in the RSEP. We will revamp our advertising champagne to incorporate the new MS4 Permit. Williston will also periodically update the Towns Stormwater web site.

Assistance from Other Entities: Chittenden County Regional Planning Commission and Marketing Partners or another advertising committee.

MCM 2 – Public Participation

4.2.2.1 of the General Permit states, “You must implement a public involvement/participation program, which at a minimum, complies with State and local public notice requirements, and includes at least three of the following: form a citizen stormwater advisory panel, establish a water quality monitoring program involving citizen volunteers, institute an on-going public workshop series on stormwater awareness, institute a continuing storm drain stenciling project, sponsor periodic community stream corridor clean-up days, establish and support a citizen “stormwater watch” group, create an “adopt-a-stream” program, or undertake a program similar to the above with the permission of the Secretary.”

BMP 1 – Storm Drain Marking

Williston coordinated with Winooski Natural Resource Conservation District to organize the boy scouts to mark catch basins within the South Ridge subdivision. The Town of Williston purchased ten new stencils for future catch basin marking. It was determined that stenciling is more manageable for different groups of volunteers that may coordinate with us in the future on markings.

What Will Be Done in 2013?

Williston will make it a requirement in the Williston Public Works Standard Specifications requiring any catch basin installed in a new development to be marked by the contractor. The Public Works Department is expecting to team up with the local schools for Public Works Week to try to encourage volunteers to participate in remarking existing catch basins. It is our understanding that each eighth grader has to do an “8th Grade Challenge” project that involves community service work. We met with the principal in hopes to recruit one of these students to work with us in remarking more catch basins throughout the community.

BMP 2 – Stormwater Workshops

Since 2011, Williston has redirected the management of public involvement activities to the Chittenden County Stream Team (CCST). Williston, along with 11 other MS4 communities, has contracted with the Winooski Natural Resources Conservation District (WNRCD) to manage and measure the success of the CCST on an annual basis. Williston’s Senior Environmental Planner is the chair of the CCST steering committee and works closely with WNRCD staff to oversee the success of the program. CCST website can be seen at: <http://ccstreamteam.org/>. The CCST 2012 Annual Report is provided in Attachment B.

A Residential Stormwater Workshop: *Learn How you Can Help Stop the Stormwater Pollution*, was held by a Williston resident for two hours in their home on July 26. The workshop was coordinated by The Friends of the Winooski and focused on how one can slow down and capture rainwater on their own property. A total of ten people attended the workshop and a rain barrel raffle was held.

The UVM’s Horticulture Research Center scheduled an event: *Stormwater Runoff: Treatment Opportunities In Urban Residential Landscapes* for November 7. The instructor advertised the seminar to discuss design concepts and precedent projects suitable for residential areas to help slow the flow of storm water runoff and remove phosphorus and other pollutants. Unfortunately, the event was canceled because of inclement weather and it has not yet been rescheduled.

What Will Be Done in 2013?

The town will continue to be a member of the CCST and notify the community of any upcoming seminars and events involving Stormwater.

BMP 3 – Stream Clean-Up Days

Since 2011, Williston has redirected the management of public involvement activities to the Chittenden County Stream Team (CCST). Williston, along with 11 other MS4 communities, has contracted with the Winooski Natural Resources Conservation District (WNRCD) to manage and measure the success of the CCST on an annual basis. Williston’s Senior Environmental Planner is the chair of the CCST steering committee and works closely with WNRCD staff to oversee the success of the program. CCST website can be seen at: <http://ccstreamteam.org/>. The CCST 2012 Annual Report is provided in Attachment B.

What Will Be Done in 2011?

The town will continue to be a member of the CCST and will continue to inform the community of any upcoming events.

MCM 3 – Illicit Discharge Detection and Prevention

4.2.3.1 of the General Permit establishes a long list of requirements that boil down to the contents of 4.2.3.1.1, which says, “Develop and enforce a program to detect and eliminate illicit discharges (as defined in 40 CFR § 122.26(b)(2)) in your small MS4”. The list ends with 4.2.3.1.7, which required the Town to submit a report summarizing its illicit discharge monitoring activities and any corrective actions taken by April 1, 2011.

BMP 1 - Detection and Elimination of Existing Illicit Discharges

The goal of IDDE monitoring in 2012 was to survey sites that had previously been tested for optical brighteners and/or chemicals including phosphorus, nitrate, and ammonia since the program onset in 2005. Out of the 18 targeted sites, 6 sites were found to be an “unlikely” source of pollution, 6 sites were “potential” sources, 3 sites were “suspect”, and 3 sites were unable to be located in the field. The three “suspect” sites were Whitewater Cir (CP0067), Blair Park (C6), and Boyer Circle (CB001). Water samples were taken from these 3 sites and sent to Chelsea Mandigo at the Essex Junction Wastewater facility for analysis. The results found no significant amounts of phosphorus, nitrate, and ammonia. Optical brightener tests were set up for the 3 sites as well, however the cotton cloth went missing at the Blair Park site. Both of the optical brightener tests came back negative. See Attachment C for IDDE Monitoring 2012 Map.

What will be done in 2013?

In 2013, the town will revisit a total of 25 sites that were previously identified as “suspect” or “obvious” as well as sites that have not been revisited within three or more years.

BMP 2 - Develop and Maintain a GIS Map

The Town has continued to field locate our utility infrastructure in many of the neighborhoods during 2012. Attached is a copy of the stormwater utilities map which was updated in 2012. The revised map shows showing field located catch basins and stormwater manholes, as well as the original identified catch basins, see Attachment D.

The Town did not acquire new stormwater infrastructure in 2012. Our data indicates:

- ☛ 1457 originally identified by CCRPC
- ☛ 79 added via As-Built date collected
- ☛ 1537 TOTAL (715 catch basins GPS in 2011 & 2012 as well as 13 storm manholes)

- ☑ 736 Municipal Owned
- ☑ 710 Privately Owned
- ☑ 90 Owned by VTrans

What Will Be Done in 2013?

The Public Works department will continue to field verify our utilities in 2013. It is our goal to be able to provide the most accurate map showing stormwater infrastructure. We will continue to require contractors to provide the Public Works Department with Record Drawings showing the As-Built location of all utilities after they are constructed, which we can add to the map as we collect it.

BMP 3 - Regulations Prohibiting Illicit Discharge

The Selectboard adopted the final version of Chapter 29.7 of the *Williston Development Bylaw* (WDB), on June 22, 2009, which explicitly prohibits discharge of non-stormwater waste.

What Will Be Done in 2013?

IDDE inspection and testing will proceed as described in MCM3, BMP 1. The Town will also enforce if an illicit discharge is discovered in another way.

BMP 4 - IDDE Educational Outreach

As described in MCM 2, BMP 1, storm drains were re-marked in the South Ridge development to educate the public about the consequence to dumping illicit discharges. No IDDE workshops were available for municipal employees in 2012.

What Will Be Done in 2013?

Williston will incorporate the requirements of the new MS4 permit and the approved Stormwater Management Program.

MCM 4 – Construction Site Runoff Control

4.2.4.1 of the General Permit requires that "... you must develop and to the extent allowable under state or local law enforce a program to reduce pollutants in any stormwater runoff to your small MS4 from construction activities that result in a land disturbance of one greater than or equal to one acre." Williston has responded to this requirement by adopting and enforcing stringent requirements for runoff and erosion control on construction sites.

BMP 1 – Enforcement

The Development Review Board had 33 projects on their agenda in 2012 for Discretionary Permit (DP) review. Public Works staff reviewed 15 applications and plans. After DP approval is given the applicant must apply for an Administrative Permit (AP) permit prior to actual construction.

The Planning and Zoning office recorded 277 AP applications through 2012. The Planning and Zoning bylaws require at a minimum, a Low Impact Runoff & Erosion Control Checklist to be completed if disturbance is more than a ¼ acre. A Runoff & Erosion Control Plan is required for projects greater than 2 acres OR in areas that are within a watershed protection buffer OR have slopes greater than 8%. Public Works and Planning and Zoning Staff conducted 32 site inspections for APs issued.

Two grants were awarded in 2011 to repair the eroding bank at the end of Avenue C/D Extension. Construction of the project commenced in the winter of 2012. The project involved rerouting the stormwater via several structures. The steep bank was stabilized and landscaping will be planted in the spring of 2013.

Finney Crossing Subdivision continued construction in 2012. The client, the Engineer, the contractor and Public Works staff continue to hold weekly project meetings as necessary. Erosion control measures were periodically inspected and continue to be reviewed by the design engineer per their State Stormwater Construction General Permit.

What will be done in 2013?

The Public Works and Planning and Zoning Departments will continue to work in conjunction to inspect construction projects as they come in for approval.

MCM 5 – Post Construction Runoff Control

4.2.5.1.1 of the General Permit states, "... you must develop, implement, and to the extent allowable under State or local law, enforce a program to address post-construction stormwater runoff from new development and re-development projects that

disturb greater than or equal to one acre ...". Williston has done exactly that. The Town is particularly proud of its watershed protection buffer requirements.

BMP 1 – Enforcement

The Public Works Department conducted annual inspections on Town-owned State Stormwater Discharge Permit in June. Town permits:

✘ Williston Fire Station	Permit # 4214-INDS
✘ Marshall Avenue Extension	Permit # 4201-9010
✘ Hillside Drive East	Permit # 5595-9010
✘ Blair Park	Permit # 5593-9010
✘ Town Pond	Permit # 4306-INDO (offset permit)
✘ Allen Brook Land Purchase	Permit # 6034-INDO (offset permit)
✘ East Hill/South Road	Permit # 6742-INDO (offset permit)
✘ Allen Brook School Park	Permit # 6273-INDS (Shared)

The Public Works Highway Department cleaned the drainage ditches adjacent to Marshall Avenue to prevent stormwater backing up into the Taft Corners ponds. We do not own the ponds, but a maintenance agreement was signed when the original subdivision was approved.

The Town is also co-permittee on multiple state issued Discharge permits. Permits have different expiration dates and inspection schedules. It is the developers/Home Owner Association's (HOA) responsibility to satisfy any permit conditions and inspections, and the Town pays our share of fees for the impervious area each year.

The Town of Williston was in contact with numerous HOA's with expired State Stormwater Discharge Permits about upgrades to their out dated stormwater systems. Unfortunately, none of the associations have chosen to conduct any upgrades at this time.

What will be done in 2013?

The Public Works Department will continue to inspect and report on Town-owned Permits. With the new MS4 permit it is expected that HOA's with expired permits will begin the process of upgrading/updating their systems and the Town will assist with technical assistance. We will also continue to seek funding for HOA's to upgrade their existing systems to the Vermont Sate 2002 Stormwater Standards.

Assistance from Other Entities: State of Vermont Agency of Natural Resources, community members, Home Owner Associations and qualified engineering firms.

MCM 6 – Pollution Prevention/Good Housekeeping

4.2.6.1 of the General Permit states, "You must describe your operation and maintenance program for preventing or reducing pollutant runoff from municipal operations, including, at a minimum: new construction and land disturbance and maintenance of fleet and buildings, parks, open space, construction and maintenance practices for gravel backroads, and stormwater systems."

BMP 1 – Permit Coverage

It has been determined that the Town garage can operate as a "no exposure" facility and will continue to operate as so.

What will be done in 2012?

The existing garage will continue to operate as a “no exposure” facility.

BMP 2 – Municipal Compliance Inspection

A Municipal Compliance Assistance Program (MCAP) audit was conducted in 2010. This audit is only necessary as a requirement of the MS4; therefore, the next audit will be required again in 2015. The Town submitted Standard Operating Procedures, SOP, for Street Sweeping and Catch Basin Cleaning to the Solid Waste Management Program. They have accepted them and have them on file, see Attachment E for a copy of the accepted procedure. Catch Basin cleaning collected in 2011 were tested March 27, 2012. See Attachment F for lab results. The pile will be combined with the street sweeping pile and be stored until fill is needed.

The Town of Williston continues to store road salt within a fully enclosed facility, eliminating any possible exposure to the elements and preventing runoff. The plow truck loading area is paved, allowing 100% collection by the loader operator and preventing any of the material from entering the ground or surface water. The Towns standard practice is to not use any sand on paved roadways. This past winter we continued the use of liquid deicing solution, in hopes to reduce the amount of salt and better protect the environment.

All Town owned vehicles are washed within the garage allowing the water to be collected via the existing floor drains which is then sent to the existing grit/oil separator, prior to entering the Town’s wastewater treatment system. The grit oil separators were cleaned by Environmental Products in the fall of 2011. The Public Works Department also tested their cleaning soaps to confirm there was not any phosphorous in them.

The Public Works Department inspected catch basins, 77+ catch basins and dry wells were cleaned by a subcontractor. Approximately 20-24 yards of sediment was removed from the following areas:

- Brennan Woods
- Village Grove
- Isham Circle
- Winslow Lane
- Bingham Lane
- Chamberlain Lane (east side)

The Town subcontracts the street sweeping in the spring and fall. Spring of 2012 - 14 yards and Fall of 2012 - 39 yards of material were collected totaling 43 yards.

The Town hired Hartigan to collect the sediment from the catch basin, and ECI for street sweeping. Materials from the spring street sweeping was screened for trash and transferred to Fontaines pit to be used for fill. The Fall sweepings were screened for trash and stock piled at the Highway Garage property. The catch basin cleanings were stock piled separately at the Highway Garage property and will be tested in accordance to our SOP this spring.

What will be done in 2013?

The Town will continue with good housekeeping practices next year. Care will be taken to protect any spillage of salt and oils at the Highway garage facility. In the event an accidental spill does occur, the Town will have the necessary equipment, brooms, absorbent pads, etc to contain the spill. Waste oil will continue to be collected and disposed of at an approved location. Street sweeping and Catch Basin cleaning will also continue. The Public Works Department will also oversee any stormwater improvements done by the HOAs within the impaired Allen Brook watershed. The new Stormwater Management Program will take into account any new requirements from the new MS4 permit.

BMP 3 – Training

Three Public Works employees attended the 1.25 hour education workshop scheduled last year on 09/27/2012 in South Burlington covering compliance assistance for Street Sweeping and Catch Basin cleaning.

What will be done in 2013?

Any training schedules for next year will be attended by Public Works employees. We also expect to participate in the APWA Public Works Week and conduct presentations to students in the local schools.

Additional Stormwater Tasks Completed in 2011:

The Town of Williston has commenced Phase II of the Stormwater funding study. We hope to have a draft report this spring that we can publicize and get voters approval for Town meeting day of 2014.

We are working with students at UVM on the design for a Green Streets Project located in a neighborhood that was constructed prior to 1970 and does not have any stormwater treatment. We expect to be able to take their design and findings and apply for funding to implement construction.

The Public Works Department continues to provide residents bags for their pets waste and trash receptacles along bike paths throughout the town to assist in proper disposal of pet waste. The Recreation Department purchased another 6,000 bags in 2012.

The Planning and Zoning Office spent the first Saturday of May planning and organizing groups for Green Up Day. Groups of volunteers are sent out throughout the Town to collect trash and materials dumped during the winter months along roadways and streams.

Phase I of the Watershed Improvement Plan: Allen Brook, Muddy Brook, Sucker Brook, Winooski River (formerly the Stormwater Master Plan) was completed in 2012. Phase II of the project will commence in 2013.

Additional trees were planted along the buffers of the Allen Brook to assist in bank stabilization.



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Williston MS 4

2012 Annual Report

Attachment A

Chittenden County Regional Stormwater Educational Program Annual Review: 2012- 2013 Program Year Summary

The 2012-2013 program year (March 1, 2012 through February 28, 2013) of the Regional Stormwater Educational Program (RSEP) maintained a consistent stream of public education and outreach. This year's program focused on using paid media and a drive to website to educate the public about the effects of stormwater runoff on water bodies and the simple steps that the public can take to reduce these effects.

As in previous years, key messages of the campaign have remained the same, and include stormwater runoff and stormwater systems education, and tips on prevention methods related to fertilizer/chemicals. The focus of this program year was to reduce fertilizer use and runoff through the use of soil testing to determine if fertilizer was needed.

Marketing Partners, Inc. continues to work on a contract basis with RSEP to implement the public outreach campaign. RSEP Communications Plan goals achieved in 2012-2013 have included:

- The 2012 program year spring media campaign. The media campaign included four weeks of radio spots on VPR, WCPV, and WEZF; four weeks of cable TV spots in the Chittenden County area; four weeks of spots during local news on broadcast TV; print ads in member community newspapers; and three weeks of advertising on Front Porch Forum (an opt-in community e-newsletter). The spring 2012 media expenditure totaled \$19,766 (approximately the same spending as spring 2011).
- The Fall 2012 media campaign. Another paid media campaign was completed throughout Chittenden County in fall of 2012 that consisted of two weeks of print ads in member community newspapers; two weeks of radio spots on VPR, WCPV, and WEZF; two weeks of cable TV spots in the Chittenden County area; and two weeks of placement on Front Porch Forum. Broadcast television was eliminated to increase online sponsorships. The fall 2012 ad campaign budget totaled \$10,000. This also was approximately the same budget for fall media compared to fall 2011.
- Extension of the "Soil Test" campaign in partnership with the University of Vermont (UVM) Agricultural Testing Lab to provide residents within the MS4 a free soil test. The ad campaigns drove people to the RSEP website where 226 eligible residents downloaded a printable coupon during this program year. UVM continues to track the number of coupons redeemed during paid media campaigns running in the spring and fall. Thirty-nine tests were submitted (an increase of three over 2011-2012).
- Increased website traffic to the soil test page by more than 36% to 803 visits (although overall website visits remained steady).
- Continued compiling of website visibility tracking data and coupon download and redemptions in order to monitor outreach effectiveness.

Gross Impressions/Audience Reach, 2011-2012 Program Year Summary Chittenden County Regional Stormwater Educational Program

1. Unpaid Media (Public Relations)

Program year 2012-2013 did not include any public relations efforts. The Champlain Water District *Water Quality Report 2012* included a reference to RSEP for stormwater mitigation information.

2. Total Paid Media Impressions, 2012 (Spring and Fall campaigns)

The 2012-2013 paid media budget was \$31,000 with \$29,766 expended, the same as the prior year. The same media strategies of increased online sponsorship in addition to commercial advertising were used with increased frequency through online sponsorships. This year's paid media schedule resulted in an increase of 17% in gross impressions, as delineated below:

Print: 1,325,832*
 Broadcast TV: 90,840 (*Nielsen households using television, Chittenden County, program ratings*)
 Cable TV: 77,220 (*Nielsen program ratings by cable market penetration*)
 Radio: 383,912 (*based on Arbitron ratings of adult listeners in Chittenden County, M-F 6a – 7p*)
 Online: 234,000 (*based on circulation reported by media outlet*)
Total gross impressions: 2,111,804

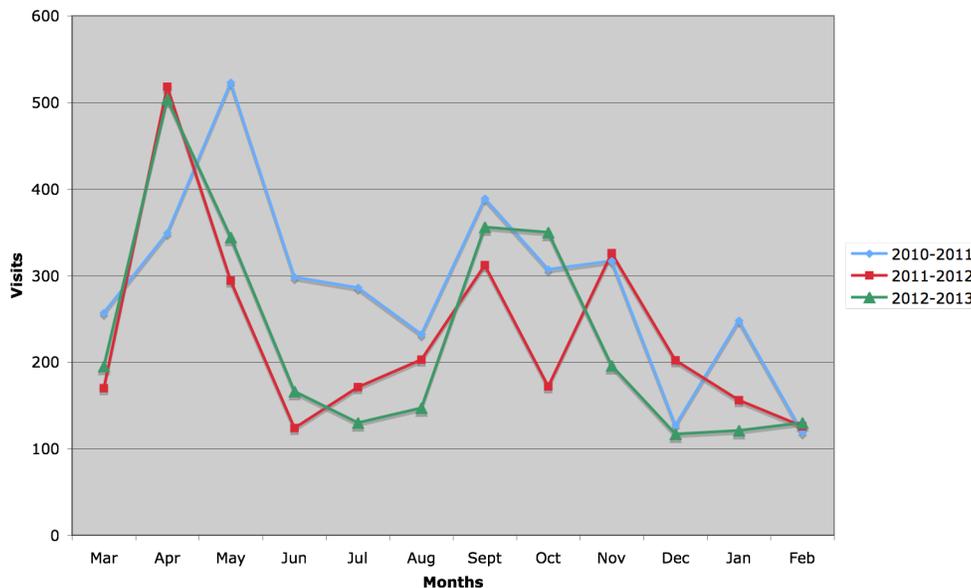
**Impressions are based on circulation as reported by outlet and an average readership of 2.34 per issue for community newspapers. An impression is a measure of the number of times an ad is displayed*

3. Website

Below is the website visitor information for 2012-2013, as compared to the three most recent preceding years. The program year had 2,756 visits, about the same number of visits as 2011-2012; ~~however, page views per visit and time on site increased.~~ Website traffic increases/spikes are in conjunction with paid media campaigns.

Smartwaterways.org Website Visits

3-Year Comparison



NOTE: Data from Google Analytics for www.smartwaterways.org.



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Williston MS 4

2012 Annual Report

Attachment B

MCM #2

Chittenden County Stream Team

Summary of Activities: January-December 2012

Prepared by Winooski Natural Resources Conservation District

In the fall of 2009, the MS4 communities began to explore collaborative approach to fulfilling their Minimum Control Measure #2 permit requirement. At the request of these MS4s, the Chittenden County Regional Planning Commission (CCRPC) applied for and received two grants totaling \$22,500. Using these grants, CCRPC assisted the MS4s in developing a regional pilot project called the Chittenden County Stream Team (CCST). In its pilot year, CCST created a logo, launched a website and Facebook page, surveyed local residents, hosted a number of workshops, and completed a variety of local projects. The success of the pilot project lead to the formal adoption of the CCST program in 2011 by eleven of the MS4 communities including Burlington, South Burlington, Williston, Winooski, Shelburne, Milton, Essex, Essex Junction, the University of Vermont, VTrans and the Burlington Airport. The program was put out to bid and awarded to the Winooski Natural Resources Conservation District (WNRCD), a regional entity focused on natural resource protection and management. Under the guidance of the participating MS4s, the WNRCD completed a second successful year in fulfilling MCM2 requirement.

In 2012, the CCST template evolved to focus activities on three target towns per year. This year, they included Shelburne, Winooski, and Milton. A targeted approach aims to strengthen relationships in select areas and inspire greater involvement and capacity by volunteers. Similarly, we focused volunteer opportunities on four main categories in order to increase quality. They include: stream clean ups, Adopt-a-Rain Garden programming, water quality monitoring, and flow monitoring. Numbers of participants in activities were low in two of the targeted towns for 2012, Milton and Shelburne, though their participation in outreach was high. The time spent in 2012 doing much-needed outreach and cultivating community connections is paying off for the planning period of 2013 as we have already heard from a number of contacts in both Milton and Shelburne about an interest in partnering on stream clean-ups, water quality monitoring and rain garden installations. Hence, we believe that town focus may be best achieved over a two-year rolling basis with the first year dedicated to general outreach and building connections and the second year allowing time to implement identified projects with a stronger volunteer base. Using this model, CCST would move into to hands-on project phase with Milton and Shelburne in 2013 and increase outreach and community connections in Essex, Essex Junction and Williston in preparation for on-the-ground project implementation in those towns in 2014.

This report summarizes CCST activities in the 2012 calendar year. Demographic data about participant numbers from each town is presented in tabular form following the narrative. It is important to note that recorded numbers of participants refer to those who chose to sign up for our mailing list and give identifying information. In many cases, CCST events involved greater numbers of participants that could not be tracked. Methods to increase greater participant tracking will be employed in 2013 and will include proven methods such as gift incentives and mapping exercises where event participants who do not wish to sign up for a mailing list can identify their “watershed address” on a large map with stickers.

Social Media

Facebook – Facebook is just one of the tools that CCST uses to disseminate information to the public about workshops, events, and projects. It is updated on a regular basis and continues to grow at a steady pace. During the latter half of 2012, the number of ‘likes’ received on the CCST Facebook page grew to 66, a 29% increase from 2011. The most represented group of followers is women between the ages of 35-44. As indicated in the attached summary table, the greatest percentage of these likes came from Burlington residents.

CCST Website –After a redesign in 2011, the website was used extensively in 2012 as a means to communicate with the public about general CCST information, impaired watershed locations, upcoming events and workshops, volunteer opportunities, and helpful resources. Of particular note in 2012 was the use of the website for sharing citizen-gathered water quality data – an important method for continued community involvement. Similar to the Facebook page, the website is updated on a regular basis. In total, there were 802 website visits from 557 unique visitors with an average amount of time spent on the site at 3 minutes 28 seconds. People viewed an average of 3.75 pages on each visit with a spike in overall visits following events and workshops. In the summer months of June, July and August the site received 186 views with 109 (58.6%) of them coming from new visitors.

Because we began gathering this data in December of 2011, we cannot compare this year’s web traffic with a previous year. However, it is notable that the total number of visitors to the site in December 2011 was just 15, compared to 45 in December 2012, a three-fold increase.

E-News – Quarterly email newsletters to our growing mailing list is another way by which CCST connects with the public. Emails include regional news, information about upcoming events and volunteer opportunities, and tips and resources. In 2012 the mailing list increased from 170 to 244 individuals. CCST E-News open rate is high 40-45%. The typical open rate for similar industries is between 20-25% according to research completed by Mail chimp.

Organizational Partnerships – One stated goal of CCST is to partner with other community organizations in order to broaden and strengthen our community ties. Some strong partnerships were forged this year, including a collaboration with the Winooski School District and the Department of Corrections who have agreed to take a leadership role in rain garden maintenance near their facilities. A local landscaper has agreed to donate plants when available to our rain garden efforts. In 2012 alone, Ann Pearce provided CCST with dozens of iris, lobelia and native grasses. Additionally, the Lake Champlain Land Trust and Lake Champlain Sea Grant pledged their support in on-the-ground projects with CCST in the form of staff and volunteer time and planning.

Projects

Chamberlin School Rain Garden II – After a successful rain garden installation at the Chamberlin School in South Burlington in 2011, fourth grade teacher Chris Provost was keen to install another one with his incoming class. In September, over 40 South Burlington fourth graders, four volunteers and two teachers removed soil from a space adjacent to the school that receives roof runoff. Then the students filled the area in with more sponge-like sand, compost and topsoil before carefully planting over 50 donated rain garden plants into a 150 square foot garden space. With this garden addition, all runoff from the school’s front most roof area is captured onsite rather than flowing into the parking lot and nearby storm drains. The gardens will continue to serve as an educational tool for the school in future years as we prepare to install educational signage on site. A story about this project was included in South Burlington’s Town Newspaper, “The Other Paper.” (Article attached).

Landry Park Rain Garden Cleanup - Winooski’s Landry Park had a three-teired roadside rain garden installed by UVM’s Sea Grant in 2008. Since then the garden has fallen into disrepair with significant weed growth, dying trees and overgrown shrubs. This garden is on the CCST’s list of public rain gardens looking for adopters. To engage with local residents and in order to give the garden an initial boost prior to adoption, CCST coordinated with three Winooski Middle and High School classes and local residents to prune, weed, clean mulch and replant the garden in September. The clean up was successful and included over 60 volunteers on two work days. A local gardener donated iris to replace other perennials that failed to thrive in the tough conditions. The garden has since been adopted by a local high school teacher and his students and will be maintained in the coming seasons by those young stewards.

Farrel Street Rain Garden Cleanup- A well-placed infiltration garden buffers the stormwater-impaired Potash Brook from the Regional Correctional Facility’s parking area in South Burlington. The garden was damaged during some

construction at the facility during the 2011 winter months. CCST stepped in to coordinate a volunteer work day to redesign the garden, weed, plant with new stock and mulch. The successful event culminated in a beautified and functional rain garden. Since then, CCST has been in conversations with the work crew leaders at the Correctional Facility who have agreed to donate time to maintain the garden in the 2013 season.

Water Quality Monitoring- The Chittenden County Stream Team recruited five volunteers to collect biweekly water quality samples at eleven sites on Centennial, Englesby, Indian, Morehouse, Muddy and Potash Brooks during the summer of 2012. These streams suffer from sedimentation, excessive nutrient loads, high temperatures, bacteria, and other urban pollutants. A total of five samples were collected at each site during the season and were analyzed for turbidity, total phosphorous, total nitrogen, and chloride. The CCST also sampled for total suspended solids (TSS), total phosphorous, total nitrogen, and chloride at five of these sites during a rain event on 8/12/12. A complete list of the specific sampling sites as well as testing results can be found at ccstreamteam.org.

Salmon Hole Cleanup – CCST organized a cleanup of Salmon Hole in Winooski/Burlington on May 5th in conjunction with WVPD. This event was attended by 9 volunteers, including Vermont’s Attorney General, Bill Sorrel.

Longmeadow Flow Monitoring - After a season of difficulty with weir fastening and barometric pressure logger operation, flow monitoring finally began in a storm drain in the Shelburne Longmeadow Drive neighborhood that drains to the stormwater impaired Munroe Brook. Local volunteers are gathering barometric pressure and level data biweekly and monitoring precipitation with a rain gauge at the site. The data gathered from this site over the next year will provide us with baseline information about flow from this neighborhood’s impervious surfaces to the impaired waterway and as residents install low impact development practices, we should be able to track the impact on runoff volume in real time.

Adopt-a-Rain Garden- In 2012, CCST finalized the adoption of 8 public rain gardens out of a total of 9. A combination of targeted event-driven outreach in areas with gardens in need in addition to web-based and event tabling to share information about the program aided in the successful adoption of so many gardens. Volunteers are supported with access to materials and plants as well as weed and trash disposal.

Outreach

Ice Cream Social Kickoff – On April 19th in Winooski, CCST hosted an ice cream social kickoff event. Over 50 people stopped by for ice cream and were given information about stormwater and ways to get involved in the local community. Arcana tabled the event, sharing tips on how to plant a rain garden and where to purchase appropriate species.

Burlington Kids Day – In May we tabled this event where dozens of children took part in our moving water game and five residents signed up for our newsletter. One Burlington resident reached at this event subsequently volunteered with a rain garden cleanup activity at Farrel St. and became a rain garden adopter in his neighborhood at Callahan Park.

Friends of the Hort Farm Plant Sale – This well-attended event introduced us to the chair of the Friends of the South Burlington Library, six area residents who signed up for the newsletter and about a dozen others who we shared information with. Conversations with the Board Chair of the South Burlington Library initiated a large rain garden project that is currently underway to absorb parking area runoff.

South Burlington Farmers Market – CCST tabled this weekly market on two occasions, June 17th and August 5th. In all, nine people signed up for our newsletter and we offered a group of residents suggestions for managing stormwater in their Burlington neighborhood that drains directly to Lake Champlain.

Milton Youth Activities Fair – CCST tabled this annual event on September 11th. We shared information with Milton residents and gathered suggestions about where to focus a stream cleanup or rain garden installation in the town. Thirty people stopped by the booth and fourteen people signed up for the mailing list.

Burlington Rain Garden Workshop- In September, CCST invited local residents to learn about rain gardens – and help clean one up – at Burlington’s Lake Champlain Waterfront. This event attracted 10 people and included several UVM students, encouraged by their ecological landscape design professor to attend. Workshop attendees went home with information on residential-scale low impact development practices and where to access materials to get a project started.

Activities Summary

Outreach Activities Participation											
Activity	Location	Participant-Residents/Town									Total
		Burlington	South Burlington	Essex	Essex Jct.	Milton	Shelburne	Williston	Winooski	Other/Unknown	
Facebook ('likes')	N/A	29	4	0	1	0	1	3	3	25	66
E-News Mailing List	N/A	42	23	8	12	14	3	14	22	108	246
Website Visits	N/A	294	22	24	0	5	2	13	27	415	802
Ice Cream Social Kickoff	Winooski	3	5	1	1		0	2	16	6	34
Kids Day	Burlington	25	0	0	0	0	0	0	0	2	27
Friends of the Hort Farm Plant Sale	S. Burlington	1	3	1	1	0	0	0	0	0	6
S. Burlington Farmers Market	S. Burlington	0	4	1	0	0	0	0	0	4	9
Milton Youth Activities Fair	Milton	0	1	0	0	27	0	0	0	2	30
Rain Garden Workshop	Burlington	6	2	1	0	0	0	0	1	0	10
Total		400	64	36	15	46	6	32	69	562	1230

Hands-on Projects Participation											
Event	Location	Participant-Residents/Town									Total
		Burlington	South Burlington	Essex	Essex Jct.	Milton	Shelburne	Williston	Winooski	Other/Unknown	
Salmon Hole Clean Up	Winooski	7	0	0	1	0	0	1	0	0	9
Chamberlin School Rain Garden II	S. Burlington	0	46	0	0	0	0	0	0	0	46
Landry Park Rain Garden Clean Up	Winooski	2	2	0	0	0	0	0	61	6	71
Farrel St. Rain Garden Clean Up	S. Burlington	4	0	0	0	0	0	0	0	0	4
Water Quality Monitoring/ Training	Burlington, S. Burlington, Winooski, Williston, Essex, Essex Jct.	3	1	0	0	0	0	0	0	1	5
Longmeadow Flow Monitoring	Shelburne	0	0	0	0	0	2	0	0	0	2
Adopt-a-Rain Garden	Burlington, S. Burlington, Winooski, Williston, Essex Junction	3	0	0	0	0	0	7	6	0	16
Total		19	49	0	1	0	2	8	67	7	153

*Note: These numbers reflect participants who chose to sign up for our mailing list and give identifying information. Many of these events reached greater numbers of untracked participants.

**Hands-on projects for Milton and Shelburne are planned for spring 2013.

[“The Other Paper” front page article about Chamberlin Rain Garden](#)



Students Link Learning to Real-World Science

[Home](#) » [Education](#) » [Students Link Learning to Real-World Science](#)

Thursday September 13, 2012

Share

Like 2

On a steamy, summer-like Thursday afternoon, 4th grade students in Chris Provost's class were busy putting textbook science concepts into practice outside their own school. The students energetically and happily took turns hauling wheelbarrows full of soil from a nearby pile and depositing it into what will become the school's second rain garden. The process of developing the garden ties directly into what they are learning about erosion in science class.

According to Rebecca Tharp, Water Resources Manager at the Winooski Natural Resources Conservation District, "The Chamberlin Rain Garden project is funded by the Chittenden County Stream Team (ccstreamteam.org) and Let it Rain (uvm.edu/sea/grant/let-it-rain). The project began last fall (2011) with a S. Burlington school teacher inspired to link the classroom learning of his 4th graders to real-world science and community service in action. Provost noticed that the water that pours off of the roof at the entrance to the school was pouring onto the sidewalk and onto the parking lot where it picked up speed, volume and pollutants as it raced toward the storm drain. Runoff from impervious surfaces is a major water quality concern in Vermont and contributes to poor water quality, stream impairment, phosphorus loading in Lake Champlain and stress on fisheries. Reducing the volume of that water is as easy as encouraging it to infiltrate close to where it lands. In the case of Chamberlin, that is happening with the installation of rain gardens at the base of their downspouts where permeable soils and plants inhabit a landscape depression. This natural holding area allows water to slowly percolate into the soil where pollutants are filtered out and pathogens are removed. Even better, that water that would be a nuisance and a threat becomes a resource as it recharges ground water and contributes to consistent and slow release of a cleaner water source to our waterways."

After the first rain garden was installed last fall the water no longer pooled or ran into the walking and parking areas and to the storm drain. Instead, that runoff goes directly to the garden where it soaks in and contributes to a beautiful landscaping feature near the

school's entrance. The positive impact of the first rain garden inspired Provost to implement a second phase to the project where there is another downspout and more land that connects to the existing garden. He worked steadily beside his students along with resident and Chamberlin parent Bern Scarp, a master gardener from UVM who was volunteering his time along with Ms. Tharp. Many plants have been donated and will become a lasting part of this garden. Ms. Tharp said Provost is, "excited about continuing the effort and seeking ways to impact water quality on the school's campus and beyond—with his students as perennial helpers and learners."

The compost, gravel and soil for this project were donated by Let It Rain. South Burlington Department of Public Works donated the trucks for use.

Individuals interested in becoming involved in some of the storm water projects happening in Chittenden County can visit costreamteam.org. Keen to try out low impact development (LID) strategies on your own property? The Let It Rain storm water program is offering financial incentives for property owners who install rain gardens, rain barrels, dry wells, cisterns, permeable pavers, green roofs and other water storing, infiltrating or conveyance methods. To learn more, visit uvm.edu/sea/grant/let-it-rain. The Winooski Natural Resource Conservation District manages all of these efforts and designed a manual about how to place, design and build your own rain garden. A PDF of that publication can be found at <http://www.vacd.org/winooski/> and by clicking on the "rain gardens" link to the left.

SOURCE: Corey Burdick, Correspondent



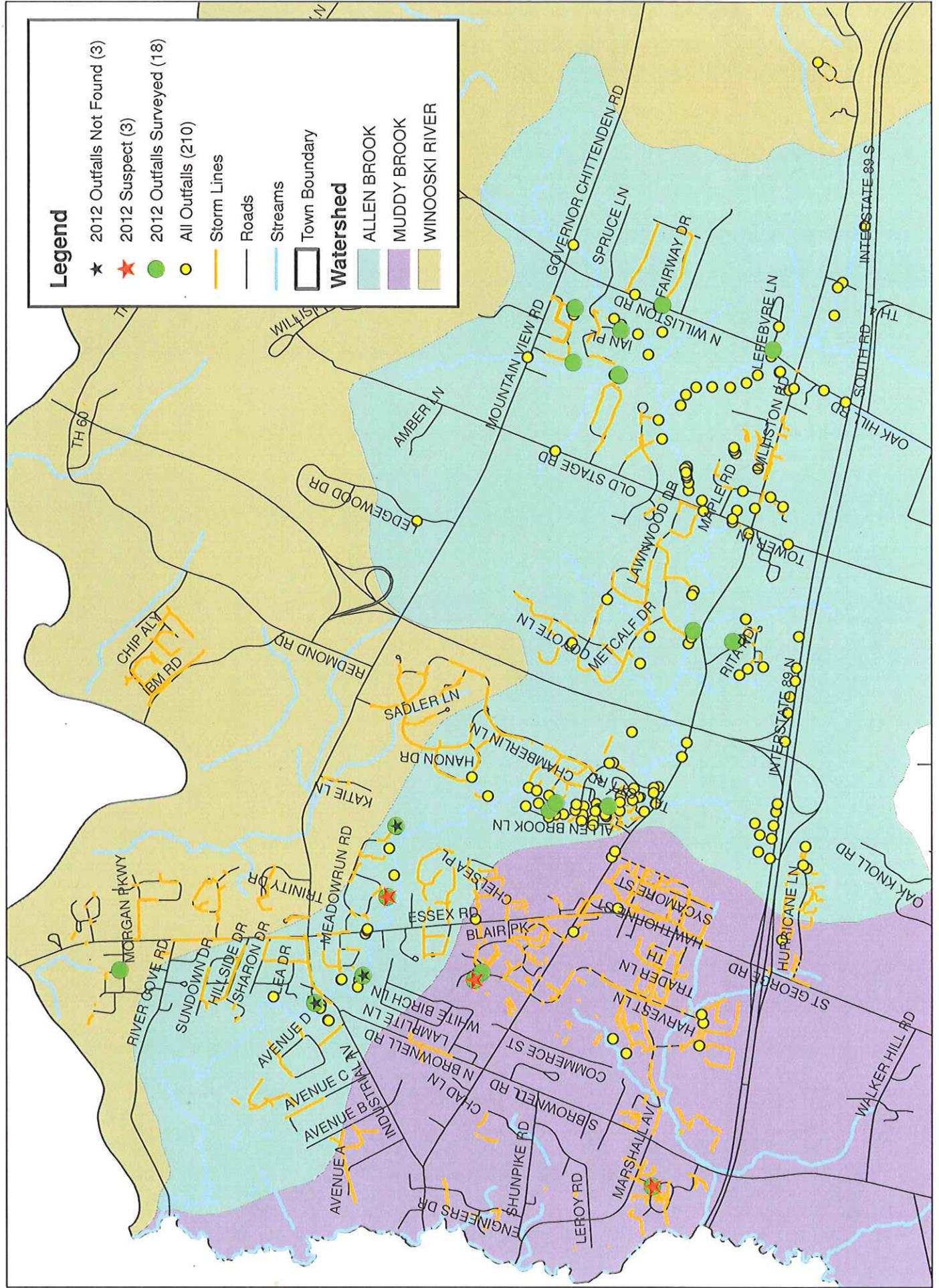
Town of Williston
Public Works Department
7900 Williston Road
Williston, VT 05495
(802) 878-1239

Williston MS 4

2012 Annual Report

Attachment C

IDDE Monitoring 2012





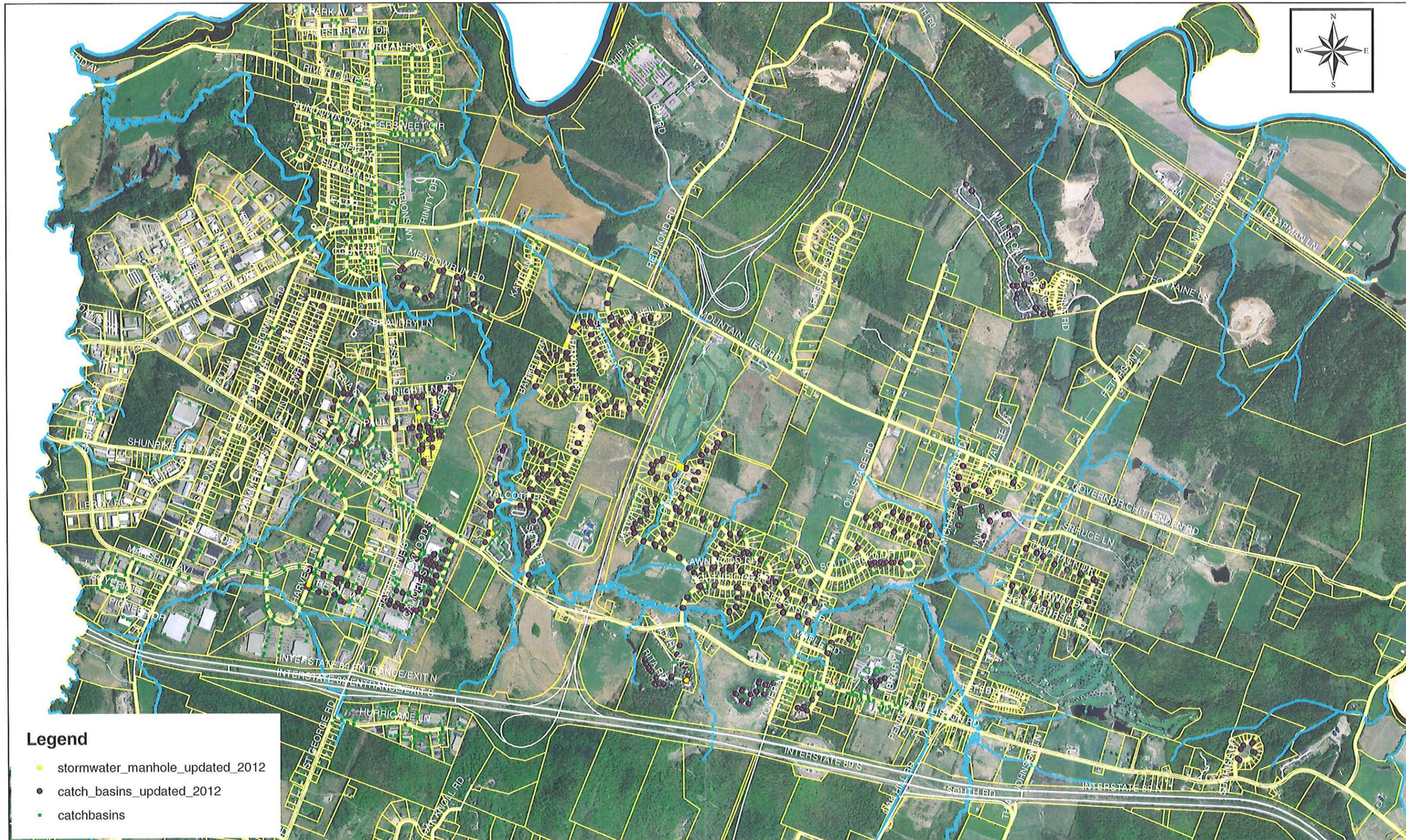
Town of Williston
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Williston, VT 05495
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Williston MS 4

2012 Annual Report

Attachment D

Williston Utilities Updated 2012



Legend

- stormwater_manhole_updated_2012
- catch_basins_updated_2012
- catchbasins



Town of Williston
Public Works Department
7900 Williston Road
Williston, VT 05495
(802) 878-1239

Williston MS 4

2012 Annual Report

Attachment E

Standard Operating Procedure

Street Sweeping and Catch Basin Cleaning

Introduction

The Town of Williston currently contracts out services to have our streets swept and catch basin sumps cleaned for all paved curb streets twice a year as required by Municipal Separate Storm Sewer System (MS4) permit, which is administered by the State of Vermont Agency of Natural Resources (ANR) Department of Environmental Conservation (DEC).

Materials removed from streets and catch basin sumps are regulated under the Solid Waste Management Rules by Vermont ANR DEC. This procedure provides Williston DPW employees with guidelines for the storage, handling, testing, and disposal of these materials.

Storage

Materials collected during street sweeping and catch basin cleaning activities will be stored separately at the DPW facility at 298 James Brown Drive. Any collected material that shows obvious signs of pollution will be stored in a separate pile so that it does not contaminate the presumably "clean" piles collected during normal maintenance activities. These materials will also be tested separately from the presumably "clean" materials.

The material storage area will be maintained to ensure that collected materials do not become a source of pollution. Piles will be confined using concrete barriers to ensure that sediment does not leave the storage area.

Testing

Materials collected as part of street sweeping activities do not require testing before they can be used as indicated below. Prior to use, these materials must be screened to remove any trash collected as part of street sweeping. After screening, these materials will be moved to a fill pile maintained by the DPW.

Materials collected as part of catch basin cleaning must be tested for Volatile Organic Compounds (VOCs) using either EPA method 8021B or 8260B prior to being used as indicated below. A composite sample will be collected from the pile of collected materials and sent to a lab for analysis. Results will be compared to the Primary Groundwater Quality Standards (enforcement standards) located in Appendix A of the Vermont ANR DEC Groundwater Protection Rule and Strategy. Using the EPA methods described above, the lower detection limits for some of these compounds in soil samples does not reach the levels specified in the Groundwater Rule (e.g. the lower detection limit for benzene in a soil sample is 13 ug/Kg and the Groundwater Standard is 5 ug/L). A sample whose result is at the lower detection limit of the methods specified will be considered a "non-detect".

Procedure for Material Containing VOCs

Materials tested using EPA method 8021B or 8260B that show VOC levels exceeding the Groundwater Quality Standards in the Vermont Groundwater Protection Rule will be moved to a separate location for storage. Compost, manure or another material high in organic matter will be blended into collected materials and they will sit for a minimum of 6 months before being re-

tested. These piles will be “turned” regularly during this time. If these materials fail a second test they will be turned and blended again. A third test will take place at least a year from the second failed test. If the third fails, these materials will be landfilled.

Use of Collected Material

Once screened and tested, all materials can be used as common fill by the DPW or others who receive permission from the DPW. Alternatively, these materials can be blended with other materials (e.g. compost, manure) to create top soil or tree planting material for use by the DPW or others who receive permission from the DPW.

Policy Review and Schedule for Update

This plan will be updated as necessary to comply with State regulation, or to fit changing circumstances at the DPW facility. At a minimum, this policy will be reviewed once every 5 years when the Towns Stormwater Management Program is revised as part of the MS4 permit application.



Town of Williston
Public Works Department
7900 Williston Road
Williston, VT 05495
(802) 878-1239

Williston MS 4

2012 Annual Report

Attachment F



Town of Williston	
7900 Williston Rd	100703
Williston, VT 05495	
Atten: Rick Peet	

PROJECT: Catch Basin Cleaning Material
WORK ORDER: 1203-03692
DATE RECEIVED: March 21, 2012
DATE REPORTED: March 27, 2012
SAMPLER: Rick Peet

Laboratory Report

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. All required method quality control elements including instrument calibration were performed in accordance with method requirements and determined to be acceptable unless otherwise noted.

The column labeled Lab/Tech in the accompanying report denotes the laboratory facility where the testing was performed and the technician who conducted the assay. A "W" designates the Williston, VT lab under NELAC certification ELAP 11263; "R" designates the Lebanon, NH facility under certification NH 2037 and "N" the Plattsburgh, NY lab under certification ELAP 11892. "Sub" indicates the testing was performed by a subcontracted laboratory. The accreditation status of the subcontracted lab is referenced in the corresponding NELAC and Qual fields.

The NELAC column also denotes the accreditation status of each laboratory for each reported parameter. "A" indicates the referenced laboratory is NELAC accredited for the parameter reported. "N" indicates the laboratory is not accredited. "U" indicates that NELAC does not offer accreditation for that parameter in that specific matrix. Test results denoted with an "A" meet all National Environmental Laboratory Accreditation Program requirements except where denoted by pertinent data qualifiers. Test results are representative of the samples as they were received at the laboratory

Endyne, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose.

Reviewed by:

Harry B. Locker, Ph.D.
Laboratory Director

www.endynelabs.com



160 James Brown Dr., Williston, VT 05495
Ph 802-879-4333 Fax 802-879-7103

56 Etna Road, Lebanon, NH 03766
Ph 603-678-4891 Fax 603-678-4893



Laboratory Report

DATE REPORTED: 03/27/2012

CLIENT: Town of Williston
PROJECT: Catch Basin Cleaning MaterialWORK ORDER: 1203-03692
DATE RECEIVED 03/21/2012

001	Site: Highway Garage		Date Sampled: 3/21/12		Time: 10:15		
Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Vt Petroleum List 8260B							
Prep EPA 5035 High Level	Completed		EPA 5035	3/23/12	W RBF	A	
Methyl-t-butyl ether (MTBE)	< 30.0	ug/Kg, Dry	EPA 8260B	3/23/12	W RBF	A	
Benzene	< 15.0	ug/Kg, Dry	EPA 8260B	3/23/12	W RBF	A	
Toluene	< 15.0	ug/Kg, Dry	EPA 8260B	3/23/12	W RBF	A	
Ethylbenzene	< 15.0	ug/Kg, Dry	EPA 8260B	3/23/12	W RBF	A	
Xylenes, Total	< 30.0	ug/Kg, Dry	EPA 8260B	3/23/12	W RBF	A	
1,3,5-Trimethylbenzene	< 15.0	ug/Kg, Dry	EPA 8260B	3/23/12	W RBF	A	
1,2,4-Trimethylbenzene	< 15.0	ug/Kg, Dry	EPA 8260B	3/23/12	W RBF	A	
Naphthalene	< 30.0	ug/Kg, Dry	EPA 8260B	3/23/12	W RBF	A	
Surr. 1 (Dibromofluoromethane)	96	%	EPA 8260B	3/23/12	W RBF	A	
Surr. 2 (Toluene d8)	97	%	EPA 8260B	3/23/12	W RBF	A	
Surr. 3 (4-Bromofluorobenzene)	103	%	EPA 8260B	3/23/12	W RBF	A	
Unidentified Peaks	2		EPA 8260B	3/23/12	W RBF	U	

Report Summary of Qualifiers and Notes

VOC samples were Methanol extracted by EPA Method 5035 at the laboratory.

