

A. Permittee Information	
1. Name of MS4:	
2. Permit Number: - 9014	
B. Minimum Control Measures	
1. Public Education and Outreach	
1.1 Website address:	
1.2 Participation in Regional Outreach Strategy <input type="checkbox"/> No <input type="checkbox"/> Yes, summary of activities attached	
2. Public Involvement and Participation	
2.1 Participation in Regional Involvement Strategy <input type="checkbox"/> No <input type="checkbox"/> Yes, summary of activities attached	
3. Illicit Discharge Detection and Elimination	
3.1 Stormwater infrastructure mapping complete or continuing: <input type="checkbox"/> No <input type="checkbox"/> Yes	
3.1 Number of stormwater outfalls inspected:	
3.2 Number of stormwater outfalls tested:	
3.3 Number of illicit discharges detected and eliminated:	
3.4 Additional information attached <input type="checkbox"/> No <input type="checkbox"/> Yes	
4. Construction Site Runoff Control	
4.1 Continued implementation of an Erosion Control Ordinance <input type="checkbox"/> No <input type="checkbox"/> Yes	
4.2 Additional information attached <input type="checkbox"/> No <input type="checkbox"/> Yes	
5. Post Construction Management for New Development and Redevelopment	
5.1 Continued implementation of an ordinance for disturbances of greater than one acre that are not subject to the Agency's post-construction permit program <input type="checkbox"/> No <input type="checkbox"/> Yes	
5.2 Additional information attached <input type="checkbox"/> No <input type="checkbox"/> Yes	
6. Pollution Prevention and Good Housekeeping	
6.1 Participation in the Municipal Compliance Assistance Program <input type="checkbox"/> No <input type="checkbox"/> Yes; Participation year:	
6.2 Number of catch basins inspected:	
6.3 Number of catch basins cleaned:	
6.4 Lane miles swept:	6.5 Cubic yards of material collected by street sweeping:
6.6 Number of staff who attended training:	
6.7 Additional information attached <input type="checkbox"/> No <input type="checkbox"/> Yes	
C. Flow Restoration Plan Implementation	
1. Summary of FRP implementation in stormwater impaired waters is attached: <input type="checkbox"/> NA <input type="checkbox"/> Yes	
D. Phosphorus Control Plan Implementation	
1. Has a Road Erosion Inventory (REI) been completed for your municipality? <input type="checkbox"/> NA <input type="checkbox"/> No <input type="checkbox"/> Yes	

E. Incorporated Previously Permitted Stormwater Systems

1. Has the municipality incorporated permitted stormwater systems into its MS4 authorization? No Yes

2. If yes, complete the following table or include this information as an attachment

Stormwater Treatment Practice Name	State Stormwater Permit No.	Date of Last Inspection	Maintenance Completed
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes
			<input type="checkbox"/> NA <input type="checkbox"/> Yes

F. Other Reporting Requirements

1. Summary of stormwater activities planned for next reporting cycle:

2. Proposed changes to the SWMP:

3. Reliance on other entities to meet permit obligations:

G. Certification

This Annual Report shall be signed by a principal executive officer, ranking elected official or other duly authorized employee consistent with 40 CFR §122.22(b) and certified as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name

Title

Signature

Date

Appendix A

Town of Williston MS4 Annual Report

MCM #1



MCM #1
REGIONAL STORMWATER EDUCATION PROGRAM
RETHINK RUNOFF

JANUARY–DECEMBER 2018
ANNUAL REPORT

Prepared by:

Pluck

Introduction

Since 2003, Chittenden County's twelve MS4s have worked to pool resources to professionally engage the public in a one message, one outreach effort known as the Regional Stormwater Education Program. Through regular Spring and Summer advertisements to drive people to the program's website, www.smartwaterways.org, this cooperative approach to fulfilling their NPDES Permit Minimum Control Measure #1 (Public Education & Outreach) requirements has built a regional awareness among the public of the need for individual action to assist in fighting stormwater problems.

In the summer of 2016, the MS4s contracted with Tally Ho through their Lead Agency, the Chittenden County Regional Planning Commission, to rebrand the Smart Waterways campaign into a combined effort with the MS4's Minimum Measure #2 regional effort known as the Chittenden County Stream Team. The goal was to create one cohesive organization and outreach effort to both educate the public about stormwater and boost public participation in implementation of projects to combat the negative impacts of stormwater. In spring of 2017, Rethink Runoff was publicly launched, including a new website and revised creative.

In late 2017, Tally Ho transitioned to Pluck, retaining the same client contact. Pluck subsequently took over the creative, administration, and management of Rethink Runoff.

This 2018 Calendar Year report recaps the work done primarily related to Minimum Control Measure #1.

2018 Initiatives

Having completed the initial rebranding to Rethink Runoff and the website redesign in 2017, we focused on updating the advertising in 2018.

We revised initial digital display advertising and introduced three :30 second animations. Each animation targeted a specific action that could help reduce either stormwater runoff, or the chemicals introduced into stormwater drainage. We placed an emphasis on Lake Champlain, creating a link between the small streams throughout the Lake Champlain Basin and their larger impact on the health of the lake. The audio of the :30 second animations was also repurposed as a radio spot.

Display advertising was rolled out seasonally, with new ads appearing throughout the calendar year, according to seasonal activities, such as a swimming or fishing. In addition, we included a series of ads identifying pet waste as a contributor to pollution in Lake Champlain via stormwater discharge. Videos were uploaded to Youtube. Video advertising was targeting by subject matter, age, geographic location and other demographics. Videos were also shown on WCAX in limited quantity as well as on Comcast/Infinity cable stations. The radio spot was broadcast locally, in addition to VPR underwriting.

Print advertising in *Seven Days VT* also reflected this seasonal approach, increasing visibility for specific activities at specific times, including a smaller campaign during Clean Water Week.

In addition to advertising, we continued to work on the website. We updated content site-wide. We redesigned the stream monitoring pages, including HTML5 graphs highlighting NaCL, Phosphorus and Turbidity measurements, providing a stronger visual display of information.

We also introduced an Events portal, allowing the Stream Team representative to post events relating to outreach efforts. We also included regional events during Clean Water Week.

For Stream Team outreach, we programmed a new HTML email template for use in MailChimp, that allows monthly e-newsletters sent to our contact list.

Media Buy Breakdown

Below is a cost breakdown of media buys, compared with spring and fall 2016. Overall, we reduced our television spend and increased our online digital ad spend. Over the past two years, we've also shifted some of our advertising spending to the mid-summer. This helps to provide a longer timeframe for advertising outreach from spring into fall, when many people are focused on the rivers, lakes and streams in the area.

2016 – MEDIA BUY			
SOURCE	SPRING	SUMMER	FALL
RADIO	\$4,500	-	\$3,258
DIGITAL	\$7,500	-	\$4,985
TV	\$5,500	-	\$2,379
PRINT	\$2,500	-	
TOTAL	\$20,000	-	\$10,622

2017 – MEDIA BUY			
SOURCE	SPRING	SUMMER* 05/28–08/02	FALL
RADIO	\$3,088	-	\$1,080
DIGITAL	\$3,600	\$3,826	\$4,582
TV	\$2,015	-	\$1,833
PRINT	\$1,755	\$585	\$1,170
TOTAL	\$13,191	\$4,235	\$8,666

2018 – MEDIA BUY			
SOURCE	SPRING	SUMMER* 6/16–08/27	FALL
RADIO	\$2,675	-	\$1,044
DIGITAL	\$3,393.96	\$7,533.96	2986.82
TV	\$3,710	-	\$2,472
PRINT	\$1,755	-	\$1,006
TOTAL	\$8,140.96	\$7,533.96	\$7,509

* For 2017 and 2018, Summer was initially planned as part of the Spring 2018 budget. Moving forward, the Spring Media Buy will include all purchases made through 7/1. The Fall media buy will include any media buys made from 7/1 the end of the summer.

Creative

Advertising during 2017 included redesigned creative, incorporating existing messaging with a new visual language based on Rethink Runoff. Video and radio creative was modified to include a new URL, but otherwise remained the same.

Advertising for 2018 included 2017 creative as well as updated ads released from April-July, tied to spring/summer activities. In addition, we included a mini-campaign promoting Clean Water Week. All ads were rolled out in 8-10 different sizes.

Three :30 second videos were launched in April, May and June. A :30 second radio spot that ran in spring and fall used the voice over of the Fertilizer video spot.

2017 Creative



2018 Creative: Spring Rollout



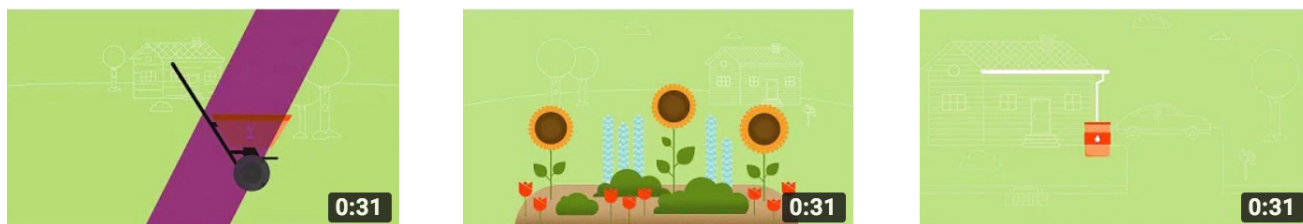
Summer Rollout



Clean Water Week



Videos



April - Fertilizer
<https://www.youtube.com/watch?v=7gTbzJN-oeE>

May - Rain Garden
<https://www.youtube.com/watch?v=imZKTAOtD04>

June - Rain Barrel
<https://www.youtube.com/watch?v=r4-NEvelP40>

Advertising Click-through Rates

SOURCE	IMPRESSIONS	INTERACTIONS/ VIEWS	COST	COST PER CLICK
DISPLAY ADS	4,091,143	3,988	\$6,238.46	\$1.56
VIDEO (YOUTUBE)	417,346	210,979	\$3,942.31	\$0.02
WCAX DIGITAL	84,467	35	\$750	\$21.42

Google Display Ads Overview

Most Popular by Impressions

CALENDER YEAR 2018 NAME	SPRING: 4/15-MEMORIAL DAY NAME	SUMMER: MEMORIAL-LABOR DAY NAME	FALL: LABOR DAY-10/31 NAME
GENERAL CHAMP	RAIN GARDEN	WATER RECREATION	GENERAL CHAMP
PET WASTE	GENERAL CHAMP	PET WASTE	PET WASTE
WATER RECREATION	PET WASTE	GENERAL CHAMP	FERTILIZER

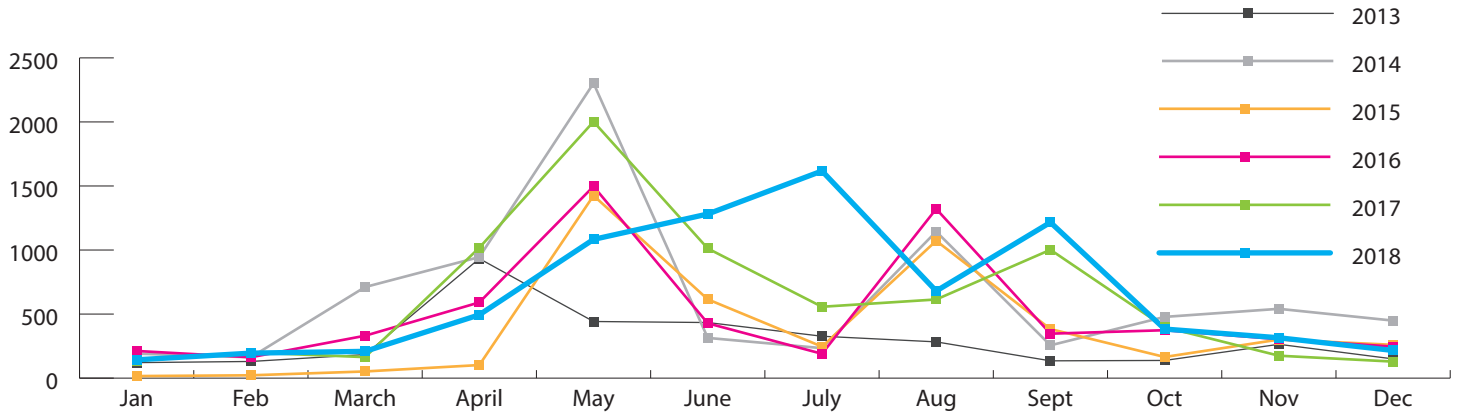
Most Popular by Interaction

CALENDER YEAR 2018 NAME	SPRING: 4/15-MEMORIAL DAY NAME	SUMMER: MEMORIAL-LABOR DAY NAME	FALL: LABOR DAY-10/31 NAME
GENERAL CHAMP	PET WASTE	WATER RECREATION	GENERAL CHAMP
PET WASTE	RAIN GARDEN	PET WASTE	PET WASTE
WATER RECREATION	GENERAL CHAMP	GENERAL CHAMP	FERTILIZER

Most Effective by Cost-per-click

CALENDER YEAR 2018		SPRING: 4/15-MEMORIAL DAY		SUMMER: MEMORIAL-LABOR DAY		FALL: LABOR DAY-10/31	
TOTAL	TIME PERIOD	TOTAL	TIME PERIOD	TOTAL	TIME PERIOD	TOTAL	TIME PERIOD
WATER REC.	\$0.45/CLICK	RAIN GARDEN	\$0.39/CLICK	WATER REC.	\$0.45/CLICK	WATER REC.	\$0.46/CLICK
RAIN GARDEN	\$0.46/CLICK	SLOW THE FLOW	\$0.39/CLICK	RAIN GARDEN	\$0.54/CLICK	FERTILIZER	\$0.54/CLICK
SLOW THE FLOW	\$0.63/CLICK	GENERAL CHAMP	\$0.39/CLICK	SLOW THE FLOW	\$0.64/CLICK	GENERAL CHAMP	\$0.65/CLICK

Website Metrics for 2013–2018



Total Sessions/Visits (1/1–12/31)

TOTAL	TIME PERIOD
7,832	2018
7,407	2017
6,004	2016
4,659	2015
7,728	2014
3,541	2013
2,787	2012

Website visits by device

DEVICE	2018	2017	2016
DESKTOP	50.1%	52.8%	65.7%
TABLET	40.6%	36.4%	24.5%
MOBILE	9.3%	10.8%	9.8%

Top Vermont Cities and Towns, 2018

TOTAL	USERS	
BURLINGTON	1318	19.25%
SOUTH BURLINGTON	767	11.34%
COLCHESTER	519	7.58%
ESSEX/ESSEX JCT.	456	6.66%
SHELBURNE	171	2.5%
WILLISTON	93	1.36%
MONTPELIER	76	1.11%
SAINT ALBANS CITY	71	1.04%
STOWE	66	.96%

New York, 149 Users

Boston, 67 Users

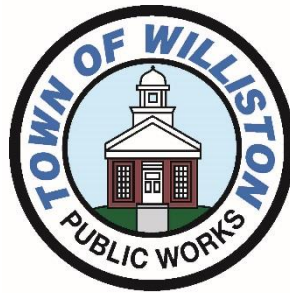
Most visited pages, 2018

TOTAL
HOMEPAGE
GET EDUCATED PROBLEMS & SOLUTIONS/PET WASTE
GET EDUCATED /PROBLEMS & SOLUTIONS/RAIN GARDEN
GET INVOLVED/STREAM TEAM
GET EDUCATED/FOR KIDS
GET EDUCATED/PROBLEMS & SOLUTIONS/FERTILIZER & LAWN CARE
GET EDUCATED/PROBLEMS & SOLUTIONS
ABOUT RETHINK RUNOFF
GET EDUCATED
GET EDUCATED/PROBLEMS & SOLUTIONS/REDIRECT YOUR DOWNSPOUTS

Appendix B

Town of Williston MS4 Annual Report

MCM #2





MCM #2

Rethink Runoff Stream Team 2018 Summary of Activities

Social Media

Facebook

- 219 total “likes”- a 23% increase from 2017 (177 in at end of 2017)
- 222 total “follows” (29 posts this year)

Instagram

- 120 total “follows” (13 posts this year)

RRST Website

- See final report from Dave Barron (Pluck Design)

Newsletter and e-correspondence

- As of 11/28/18, there were **508** subscribers to the RRST newsletter which is an 8% increase in 2018 (from 467 in 2017) It is the highest subscription to date. The average open rate for emails was 24%
- Arbor Day Volunteer Solicitation Email Published on 4/4/18 Opens: 99 Clicks: 7
- Summer Newsletter Published 9/13/18 Opens: 97 Clicks: 6
- Fall Newsletter Published on 11/18/18 Opens: 125 Clicks: 17

Organizational Partnerships

The Rethink Runoff Stream Team partnered with 18 different organizations in 2018 (15 non-municipal partners, 3 municipal partners)

- Vermont Community Garden Network (Organized state-wide Day in the Dirt event which resulted in 10 volunteers signing up to help with Rain Garden Cleanup at the Coast Guard station)
- VHB (Rain Garden Cleanup)
- Winooski Valley Parks District (Provided land for S. Burlington Arbor Day tree planting, also hosted the Conservation Field Day)
- US Fish and Wildlife (Cost share on trees for Arbor Day)
- Williston Central School (students volunteered for Arbor Day tree planting)
- Lake Champlain Basin Program (Provided funding for much of Arbor Day tree planting event)
- Intervale Conservation Nursery (Supplied trees and staff for Arbor Day tree planting)
- South Burlington NR Committee (Helped with the Trees For Stream planting on Muddy Brook)
- Community Sailing Center (Invited RRST to participate in an on-board education program during the Maritime Festival)
- Chamberlin School - S. Burlington - (A stormwater lesson was taught to Chris Provost’s 4th grade class at the as part of a field trip at the Community Sailing Center in Burlington)



This document was prepared by the Winooski Natural Resources Conservation District, who is contracted by Chittenden County’s MS4 Committee to run the RRST program.



- Milton Youth Coalition (Provided tabling opportunity for RRST at Milton Activities Fair)
- Shelburne Farms (Provided tabling opportunity for RRST at Shelburne Harvest Festival)
- VT DEC (La Rosa Program funded WQ sampling lab analysis)
- ECHO (Provided tabling opportunity for RRST in the museum during Clean Water Week)
- Colchester High School (students volunteered to stencil storm drains in Colchester as part of an AP Environmental Science project)
- Burlington Parks and Rec (Provided tabling opportunity for RRST at Kid's Day)
- Winooski Department of Recreation and Parks (Provided tabling opportunity for RRST at Winooski Wednesdays event)
- Winooski DPW (Assisted in selection of storm drain mural locations, cleaned catch basins and provided day-of support to artists)

Media

The Rethink Runoff Stream Team had **six** media appearances in 2018, exceeding the work plan goal of five articles:

- Article: Call for Tree Planting Volunteers: Williston Observer & The Other Paper (April)
<http://www.willistonobserver.com/streambank-tree-planters-needed/>
<http://otherpapersbvt.com/community-tree-planting-event-celebrate-arbor-day-with-your-friends-and-neighbors.html>
- Article: The Citizen - Survey Results (May)
<http://www.thecitizenvt.com/2018/05/03/survey-shows-increased-awareness-stormwater-runoff-problem-solutions/>
- Article: Call for Stream Team Volunteers, Williston Observer (June)
<http://www.willistonobserver.com/chittenden-county-water-quality-volunteers-needed/>
- TV Coverage: Clean Water Week (August)
<http://www.wcax.com/content/news/Lend-a-hand-with-nonpoint-water-pollution-489666141.html>
- TV Coverage: Winooski Storm Drain Mural Project (October)
<https://www.wcax.com/content/news/Winooski-mural-aims-to-educate-on-stormwater-pollution-496723301.html>
- TV Coverage: Burlington Storm Drain Stenciling (October)
<https://www.mychamplainvalley.com/news/protecting-vermont-s-water-by-rethinking-runoff/1510638055>



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Outreach

Outreach includes any educational opportunities or tabling events where resources or information are provided to the community about the RRST program. There were **seven** outreach events in 2018, with an estimated total outreach to **470** people.

Outreach events in 2018 targeted the municipalities of **Milton, Shelburne and Burlington. Winooski** carried over from last year due to a venue cancellation experienced in 2017.

- **Burlington** Kid's Day (5/5/18) 150 people reached
- **Burlington** Clean Water Week Tabling at ECHO (8/1/18 & 8/2/18) Reached 117 people total (35 from our 9-municipality area)
- **Burlington** Lake Champlain Maritime Festival. In partnership with the Community Sailing Center, Rethink Runoff took our education ON the lake. The Rethink Runoff coordinator sailed aboard a small sailboat with 4 community members and shared information about the watershed and how to get involved with Stream Team. 3 adults, 1 kid reached
- **Shelburne** Harvest Festival (9/15/17) 61 adults, 77 kids reached
- **Winooski** Wednesdays (9/5/18) Reached 12 adult Winooski residents and 8 kids
- **Milton** Activities Fair (9/27/18) Reached 40 adults and 60 kids from Milton Brought 'Build a Rain Garden' activity and information about green lawn care
- **Burlington and Colchester:** Storm Drain Stencils were loaned to Jenna Olson and Karen Adams for independent projects. 39 drains marked. 20 students reached

The 2018 work plan goal for outreach participation was 400 people, which was surpassed. A total of **470** people that were engaged in outreach and educational opportunities in 2018. Chosen outreach towns for 2019 are Essex, Essex Junction, and Colchester.

New Outreach Activity Created: Stream team coordinator, Kristen, created a new activity to bring to tabling events to engage kids and families. The activity is called "Design Your Own Rain Garden." Using a tray of dirt and laminated pictures of plants that thrive in VT rain gardens (taped on toothpicks), participants can imagine in 3-D space what a rain garden might look like in their own backyard or school. The activity has been a hit so far. To engage adults, the coordinator brought pamphlets about green lawn care and a booklet about how to build a rain garden.



Figure 1: Build-a-Rain Garden Activity at a tabling event at ECHO



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Event-Driven Tasks

There were **seven** hands-on events held in 2018. Event-Driven Tasks involve community members in some form of hands-on engagement. This most often means volunteering, but can also include hands-on education activities with school groups.

- Rain Garden Clean Up at Burlington Coast Guard Station (4/28/18)
 - Partnered with VT Community Garden Network to carry out this event
 - 10 volunteers
- Trees for Streams Arbor Day Planting: Williston (5/4/18)
 - Partnered with Winooski Valley Parks District, The Intervale Conservation Nursery, US Fish and Wildlife, The Lake Champlain Basin Program and Williston Central School to carry out this event
 - 50 volunteers (36 students, 14 adults)
 - 560 trees planted along Allen Brook
- Trees for Streams Arbor Day Planting: South Burlington (5/4/18)
 - Partnered with Winooski Valley Parks District, The Intervale Conservation Nursery, US Fish and Wildlife and The Lake Champlain Basin Program and to carry out this event
 - 22 volunteers
 - 840 trees planted along Muddy Brook
- Conservation Field Day at Ethan Allen Homestead (5/16/18)
 - Reached 71 students from S. Burlington, Colchester and Essex
 - This environmental education event was hosted by WVPD at Ethan Allen Homestead in Burlington. 5th grade students from regional schools spent the day rotating through a series of workshops focused on conservation stewardship. RRST coordinator taught a workshop about stormwater
- Stream Team Water Quality Volunteer Training Day at WNRCD office (7/9/18)
 - 14 people trained, materials distributed for stream sampling
- Stormwater Lesson with Chamberlin School at the Community Sailing Center (CSC)
 - 26 students (4th graders from S. Burlington) participated in a field trip at the CSC. Kristen provided 1.5 hours of watershed education at the end of the sailing segment. Students used markers and paper to trace the watershed around their school, sung a song about watersheds and interacted in small groups with hands-on watershed models. They experimented with what happened when “rain” from a spray bottle hit different surfaces and then distributed “pollution” (sprinkles, confetti, etc.) on the landscape to see where it would flow.
- Winooski Storm Drain Mural Project - Winooski (10/10/18)
 - Partnered with the Winooski DPW and local artists to carry out this event
 - 3 artists painted a total of 2 murals. Artists reported speaking to about 75 people about the project while they were out painting.



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Hands-on participation events in 2018 targeted the towns of Winooski, South Burlington, and Williston. Details about engagement in those communities can be seen above.

A total of 74 people participated in hands-on RRST events in 2018. A total of 94 people volunteered their time in a RRST activity in 2018; just falling short of the 100 volunteer goal. Chosen project towns for 2019 are Burlington, Milton, and Shelburne

RRST Outreach Demographic Impacts

The table on this next page displays the interaction from each of the nine MS4 communities at tabling events and 2018 project events and workshops. Please note: this is not a comprehensive list of all 703 people reached, as town residence was only acquired when offered.

Town	# of participants
Burlington	255
Colchester	25
Essex Town	20
Village of Essex Junction	10
Milton (O)	100
Shelburne (O)	58
Williston*	59
South Burlington*	81
Winooski* (O)	95
TOTAL	703

Table 1: Interaction with RRST by member town (* = 2018 project towns (O) = outreach town)



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City of Winooski Project: Storm Drain Murals

RRST coordinated a storm drain mural event for the City of Winooski in 2018. A “call for artists” was published by the Essex Reporter on May 31, 2017 and the opportunity was shared with artists involved in past RRST projects. Four concepts were submitted by two artist teams and two were selected to be painted around catch basins pre-selected with guidance from the City’s Public Works Department.

On the morning of October 10, 2018, the three artists, Holly Greenleaf, Rachael Forando, and Stephen Welter were stationed at their assigned catch basins: Holly at the catch basin outside Chick’s Market at the corner of River St and Hickock St. and Rachael and Stephen as an artist team on Winooski Falls way by the bus stop. The artists signed contracts stipulating the requirements and procedures they had to adhere to in order to participate in the project. Instead of traffic paint, self-priming porch and floor enamel was used by all artists. Public Works staff assisted with thoroughly cleaning the areas to be painted and ensuring safety of the artists by providing traffic cones and vests. All murals were completed by the end of the day. Throughout the day, the RRST coordinator checked in with the artists. Each artist was given a pack of Rethink Runoff stickers and a mailing list sign up sheet. Artists reported speaking with about 75 passers-by about the project. They gave away about 30 stickers, and 2 people signed up for the mailing list. WCAX covered the story (see link in Media list above) and Facebook likes and shares were higher for this post than any other post in RRST history. About 2,800 people digitally interacted with the post.

The total estimated cost to plan, manage, and implement this project was **\$1,411**. The approximate personnel time used to plan and execute the project was 20 hours (\$900). The artists were paid a \$250 stipend each; a total of \$500. The mileage was about \$11.



Figure 2: Winooski murals (Chick’s Market: artist Holly Greenleaf, left Winooski Falls Way: artists Rachael Forando and Stephen Welter, right)



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Town of Williston Project: Arbor Day Community Riparian Buffer Planting

On May 4, 2018, 50 community volunteers (including 36 students from Williston Central School) joined a crew from The Intervale Center at Allen Brook behind the Williston Central School soccer fields in Williston to plant native trees along the bare banks of this stretch of river. Volunteers planted 560 trees, covering 1.4 acres of river with native vegetation.

Prior to the volunteer day, RRST coordinator used funds from the Lake Champlain Basin Program (LCBP) Trees for Streams grant to scope sites and secure landowner agreements for the planting projects. RRST money was used to solicit volunteers and coordinate the volunteer work days on the day of the planting event.

The estimated cost to RRST to plan and carry out the tree planting event was approximately **\$1,530**. Supplies, including trees and tree protection, were purchased with funds from the LCBP grant and cost-share from the US Fish and Wildlife Partners. Personnel time used to plan and execute the project was roughly 33 hours or \$1,400. Refreshments were approximately \$30 and mileage was approximately \$15.



Figure 3: Volunteers in Williston plant trees along Allen Brook on Arbor Day, 2018 (5/4/18)



This document was prepared by the Winooski Natural Resources Conservation District, who is contracted by Chittenden County's MS4 Committee to run the RRST program.



Figure 4: Some major partners for both Arbor Day Riparian Buffer Planting Projects

Town of South Burlington: Arbor Day Community Riparian Buffer Planting

On May 4, 2018, 16 community volunteers joined RRST coordinator and a crew from The Intervale Center at Muddy Brook Wetland Reserve in South Burlington to plant native trees along the bare banks of this stretch of river. Volunteers planted approximately 400 trees, covering one acre of river with native vegetation.

Prior to the volunteer day, RRST coordinator used funds from the Lake Champlain Basin Program (LCBP) Trees for Streams grant to scope sites and secure landowner agreements for the planting projects. RRST money was used to solicit volunteers and coordinate the volunteer work days on the day of the planting event.

The estimated cost to RRST to plan and carry out the tree planting event was approximately **\$1,530**. Supplies, including trees and tree protection, were purchased with funds from the LCBP grant and cost-share from the US Fish and Wildlife Partners. Personnel time used to plan and execute the project was roughly 33 hours or \$1,400. Refreshments were approximately \$30 and mileage was approximately \$15.



Figure 5: Volunteers in S. Burlington plant trees along Muddy Brook on Arbor Day, 2018 (5/4/18)

Water Quality Monitoring Program Summary

RRST has maintained an ongoing water quality monitoring program since 2012. These urban or suburban streams are impacted by sedimentation, excessive nutrient loading, high temperatures, bacteria, and other pollution. With another year of support from VT DEC's LaRosa program, RRST collected biweekly water quality samples at twenty three sites on twelve streams in 2018 (an increase by five sites and three streams from 2017). Thirteen volunteers and one intern helped collect grab samples on five, biweekly Tuesdays from 7/10 - 9/4. Grab samples were analyzed for turbidity, total phosphorus, and chloride. These parameters were also sampled at five of the sites during one rain event on 8/18. See the 2018 Water Quality Monitoring



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Report in Appendix A for more information.

The training day for citizen science samplers took place on 7/9/18. RRST coordinator demonstrated sampling procedures, described the data collection sheets and answered questions. Throughout the season, volunteers returned their samples to the WNRCD office after sampling, and the RRST coordinator ensured all samples were accounted for and delivered to the UVM lab. All volunteers received a hand-written thank-you card at the end of the sampling season. A volunteer appreciation event is planned for spring 2019. Volunteers expressed an interest in having an educational experience, rather than a pizza party, so the plan is to host a tour of the Essex Wastewater Treatment Plant, followed by snacks.

New this year, the RRST coordinator sent bi-weekly emails to WQ volunteers to check in about sampling procedure and share interesting local water tidbits. This frequent communication was well received by the volunteers. The coordinator also solicited feedback on the training materials and field data sheets and made significant edits for 2019 to improve clarity.

WNRCD sponsored an (unpaid) water quality intern for the sampling season. James Mazzola, a recent graduate, helped collect 5-8 samples each sampling day. He also helped the RRST coordinator scope the five new sampling sites for safety and suitability and helped update directions for all sites, adding pictures and more descriptive landmarks.

<i>Stream</i>	<i>Location</i>	<i>Site ID</i>	<i>Lat / Long</i>
Centennial Brook	Grove Street in Burlington (by the parking lot for Schmanska Park)	Centennial 10	44.48453, -73.18423
	Patchen Road in South Burlington (through cemetery)	Centennial 20	44.47402, -73.17334
Indian Brook	Parking lot B of Essex High School	Indian 10	44.49668, -73.11093
	Lang Farm in Essex	Indian 20	44.50442, -73.09190
Malletts Creek	McMullen Road	Milton 10	44.60855, -73.10693
Munroe Brook	Route 7 and Bay Road (by Red Apple Motel)	Munroe 10	44.40532, -73.21735
	Spear & Webster Intersection (just south of Kwiniaska Golf Course)	Munroe 20	44.38984, -73.20103
Morehouse Brook (one old site: 10 one new site: 20)	Landry Park Winooski (Eastern trib)	Morehouse 10	44.50035, -73.19226
	Landry Park Winooski (main branch - west of Morehouse 10)	Morehouse 20	44.50041, -73.19444
Muddy Brook (20- site changed for safety)	River Cove Road in Williston	Muddy 10	44.47293, -73.13505
	S. Brownell Road Williston	Muddy 20	44.44196, -73.13228
	Van Sicklen Road in Williston	Muddy 30	44.42823, -73.14622
Potash Brook (40 - site changed for safety)	Kindness Court in South Burlington near Humane Society	Potash 10	44.44572, -73.21348
	Farrell Street in South Burlington near	Potash 20	44.44660, -73.20415



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	Klinger's Bakery		
	Dorset Street in South Burlington	Potash 30	44.45150, -73.17849
	Kimball Ave South Burlington	Potash 40	44.45394, -73.14809
Engelsby Brook	Pine St in Burlington near Champlain Elementary Community Gardens	Engelsby 10	44.45627, -73.21394
	Behind UVM Redstone Campus in Burlington	Engelsby 20	44.46654, -73.19741
Alder Brook (new)	Off Chapin Road in Essex	Alder 10	44.51742, -73.06559
Bartlett Brook (new)	By Shearer Chevrolet in South Burlington	Bartlett 10	44.42596, -73.21345
Sunnyside Brook (new)	Mountain View Drive in Colchester	Sunnyside 10	44.50654, -73.17823
Sunderland Brook (new)	In Pearl Street Park in Essex Junction	Sunderland 10	44.50179, -73.12983
	Off Pine Island Road in Colchester	Sunderland 20	44.51685, -73.20421

Table 2: 2018 Stream Sampling Site Locations



Figure 6: Volunteers sampling at Indian 10, Indian 20 and Muddy 30 on 8/7/18

Town	Number of Stream Team Volunteers
Essex Junction	3
Colchester	2
S. Burlington	2
Burlington	2
Williston	2
Shaftsbury	1
Hinesburg	1

Table 3: Stream Team Water Quality Sampling Volunteers by town



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Adopt-a Rain Garden Program Summary

The Stream Team's Adopt-a-Rain Garden program is an opportunity for individuals to assist in keeping Chittenden County's public rain gardens functional and attractive. This involves basic maintenance activities like picking up trash, pruning, pulling weeds, installing new mulch, and informing the coordinator of non-functioning gardens. There are currently eleven public rain gardens managed by RRST. In 2018, there were four official adopters, but about 10 community members volunteered time to clean the Coast Guard Station garden this year as part of the Vermont Community Garden Network's Day in the Dirt event. Efforts will be made in 2019 to find individuals or groups to adopt all gardens.

This summer, the RRST coordinator visited all the gardens to remove out of date signage. The signs will be re-laminated with the current RRST logos and information and will be returned next spring. The re-branding of the signs has been organized by Dave Barron of Pluck Designs.

An assessment of each garden was conducted in summer 2018 and the status of each is provided below.:

Callahan Park Rain Garden

Location: 45 Locust St., Burlington

This garden has been functioning well for some time thanks to efforts by Brad Ketterling, who has adopted this garden for several years. In 2017, Burlington Public Works brought a load of mulch to the garden and Brad spread the mulch and kept up with weeding and monitoring the garden. Several, understory shrubs and flowers have been shaded out by larger, over-story plants that need to be thinned. There are several locations that also need to be replanted, so efforts will be made to locate surplus plants that can be added in 2019.

Chamberlain School

Location: 262 White Street, South Burlington

This garden was installed in partnership with WNRCD and the Let it Rain Program in 2013. This is one of several rain gardens on the grounds of Chamberlain Elementary. School teacher Chris Provost adopted this garden again in 2018 and has actively maintained it for several years.

Coast Guard Station

Location: Depot Street, Burlington

This small garden is located in the parking lot abutting the bike path next to the Burlington Coast Guard Station. In 2014, RRST worked with the ECHO summer kids program to engage elementary school children in cleaning the garden and in 2015 a local resident, Wiley Reading, adopted the garden. The garden did not



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have an adopter from 2016-2018, but this garden got a “boost” of energy from 10 community volunteers through the Day in the Dirt event hosted by the Vermont Community Garden Network in spring of 2018. It is in good condition. Efforts will be made to find a volunteer for 2019.

Correctional Facility

Location: 7 Farrell St., South Burlington

This garden is visible from the road and appears to be functioning well. Originally, employees of the prison adopted this garden and would occasionally clean the garden with inmates. There has been a lot of staff turnover in the past few years without a clear adopter. No formal adoption of this garden was made in 2018. MS4 representative, Tom DiPietro, has been in communication with Correctional Facility staff about proper maintenance. He will continue to be the main contact for 2019, with support offered from The Stream Team as needed. There is not a RRST garden sign at this garden, but one will not be installed here as visiting the area is discouraged.

Farrell Park

Location: Swift Street, South Burlington

This garden is unique in terms of its design. It is called an “advanced wetland stormwater filter” and was installed in 2012. Stormwater enters the garden through an inlet, flows through the gravel wetland filter media, is cleaned and exits through other end. The garden requires very little maintenance because it has a flushing system that prevents sediment from building up. This garden had an active adopter for its entire life, until 2015 when the adopter moved away. The garden was never in need of additional plants or maintenance. It would not be appropriate to add mulch to this garden. RRST would like to find another adopter in 2019, primarily to weed the site and to bring any issues to our attention.

Landry Park

Location: North St., Winooski

This garden was constructed in 2006 as two, separate gardens along the narrow strip of grass between a fence at Landry Park and the road. Over the years, the gardens have become overgrown, but Winooski DPW officials believe it still functions well, even with the tall, dense shrubs. A few years ago, nearby road construction altered the slope of the road carrying larger volumes of water into the garden. The increased flows have killed some of the vegetation and caused gullies to form, but the vegetation seems to have rebounded. It would be beneficial to the functionality of the garden to have the sediment vacuumed out and RRST has spoken with the City of Winooski DPW about this maintenance task. It is expected to be completed in spring 2019. In 2016, a group of UVM students in an Ecosystem Design course developed recommendations to repair the garden. There is no current adopter; and RRST coordinator will attempt to find one for the 2019 season.

Williston Town Hall Annex

Location: 7900 Williston Rd, Williston



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This small garden near the entrance walkway to the Annex building and the parking lot has had an active adopter since 2014: Rita Desseau. Rita maintained the garden in 2018, but additional work needs to be done at this site to weed, thin larger shrubs, re-plant in bare spots, and mulch the garden.

Williston Library (aka. Dorothy Alling Memorial Library)

Location: 21 Library Lane, Williston

The Williston Library garden is in good condition and is primarily being cared for by the staff of the library. The flowering plants may need to be thinned out in 2019. This garden was previously cared for by Andrew Wolf.

South Burlington High School (formerly the location of the South Burlington Library)

540 Dorset St., South Burlington

WNRCD received a grant to construct a rain garden at the entrance to what was the South Burlington Library (now South Burlington High School) in 2013. The rain garden received minimal maintenance by the library staff over the years, and was formally adopted in 2016 by Amy Niggel’s Cub Scout 678 pack. The pack’s leadership changed hands in 2018 and the new cubmaster Bill Kett agreed to continue maintenance of the garden with his pack.

South Burlington Fire Department

575 Dorset St., South Burlington

The City of South Burlington installed this bioretention area/rain garden in 2015 to improve stormwater management at the Fire Department. Cub Scout pack 678 volunteered to adopt this rain garden as well in 2019.

Rain Garden	Adopter 2018	Previous adopters
Chamberlin School, South Burlington	Chris Provost and students	Chris Provost
Coast Guard Station, Burlington	None	Wily Reading
Landry Park, Winooski	None	None
Williston Annex	Rita Dessau	Rita Dessau
Williston Town Library	Town Library Staff	Andrew Wolf
Callahan Park, Burlington	Brad Ketterling	Brad Ketterling
Farrell Park, South Burlington	None	None
Department of Corrections, South Burlington	None	Dana Scofield and Lori Farley
Brownell Library, Essex Junction	None	None



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South Burlington Fire Station	Cub Scouts 678 (Bill Kett)	Cub Scouts 678 (Amy Niggel)
South Burlington Library	Cub Scouts 678 (Bill Kett)	None

Table 4: 2018 Rain Garden Adopters

2018 Staffing Notes

In 2018, WNRCD experienced a full staff turnover. At the end of May 2018, Holly Kreiner left her position with WNRCD and was replaced by Kristen Balschunat. In July 2018, District Manager Corrina Parnapy left her position, and was replaced by Gianna Petito. Kristen has taken primary responsibility for Stream Team activities.



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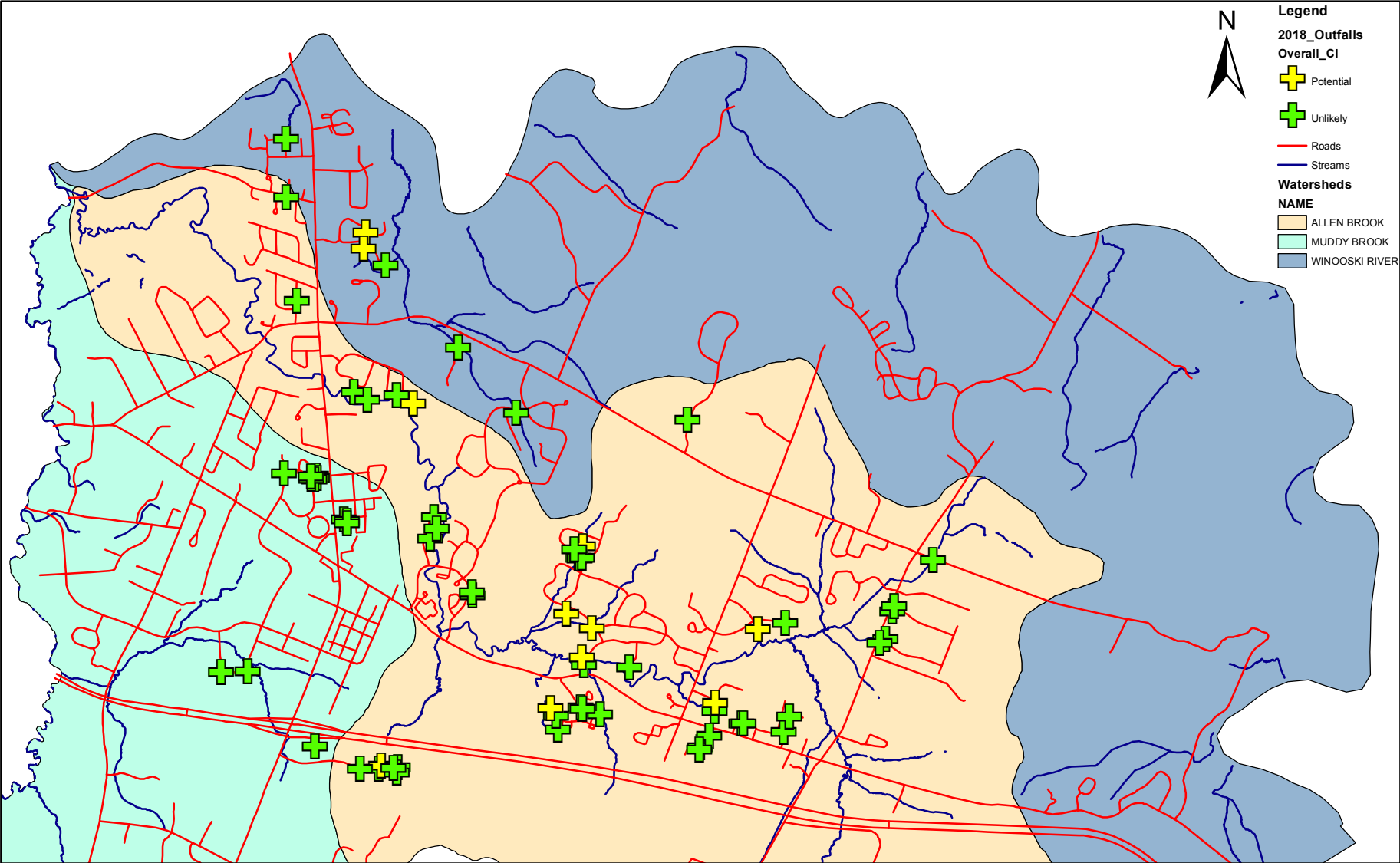
Appendix C

Town of Williston MS4 Annual Report

MCM #3



IDDE Monitoring 2018



0 0.25 0.5 1 1.5 2 Miles

Map created by Kaitlyn George using ArcMap on 8/7/18.

OBJECTID	SiteID	Year	Watershed	Fieldsheet	Assisted by	Bank	Flow	Material	Shape1	Shape2	Diameter	Submerged	Damage	Odor	Depositstain	Vegetation
1	IDDE20		2018 MB	YES	KG		No	PVC	Circular	Single	15	Partially in Sediment	Wingwall Broken	Some	None	Normal
2	CP062		2018 AB	YES	KG		Trickle	PVC	Circular	Single	18	No	None	None	None	Normal
3	CP061		2018 AB	YES	KG		No	PVC	Circular	Single	15	Partially in Sediment	None	None	None	Normal
4	CP063		2018 AB	YES	KG, JS		Trickle	HDPE	Circular	Single	15	No	Wingwall collapsed, Heavy Stone blocking 1/	None	None	Normal
5	ID001		2018 AB	YES	KG		No	HDPE	Circular	Single	15	No	None	None	None	Normal
6	ID002		2018 AB	YES	KG, JS		No	PVC	Circular	Single	12	Partially in Water and Sediment	Apron unhooked	None	None	Normal
7	ID003		2018 AB	YES	KG		Trickle	Steel	Circular	Single	24	No	Corrosion and cracks in apron	None	None	Normal
8	IDDE12		2018 MB	YES	KG		No	RCP	Circular	Single	18	Partially in Water	None	None	None	Normal
9	IDDE13		2018 MB	YES	KG		No	HDPE	Circular	Single	12	No	None	None	None	Excessive
10	CP213		2018 WR	YES	KG		No	Steel, Concrete	Circular	Double	15	Partially in Water	Steel Pipe crushed and Corroded	Some	None	Normal
11	Cedar1		2018 AB	YES	KG		No	HDPE	Circular	Single	15	Mostly in Water	None	None	None	Normal
12	CP027		2018 AB	YES	KG		Trickle	Steel and Concret	Circular	Single	24	Partially (Sediment & Water)	None	None	None	Normal
13	CP028		2018 AB	YES	KG		NO	HDPE	Circular	Single	15	No	None	None	None	Normal
14	CP025		2018 AB	YES	KG		No	HDPE	Circular	Single	15	No	None	None	None	Normal
15	CP026		2018 AB	YES	KG		Trickle	HDPE	Circular	Single	18	No	None	None	None	Normal
16	CP023		2018 AB	YES	KG		No	HDPE	Circular	Single	18	No	Apron unhooked	None	None	Normal
17	CP058		2018 AB	YES	KG		No	HDPE	Circular	Single	18	No	None	None	None	Normal
18	IDDE7		2018 AB	YES	KG		No	HDPE	Circular	Single	18	No	Apron unhooked	None	None	Normal
19	IDDE8		2018 AB	YES	KG		No	HDPE	Circular	Single	24	No	None	None	None	Excessive
20	CP229		2018 AB	YES	KG		Moderate	CMP	Circular	Single	21	No	Corrosion	None	None	Normal
21	CP230		2018 AB	YES	KG		Moderate	CMP	Circular	Single	26	No	Corrosion	Rancid/sour	None	Normal
22	CP231		2018 AB	YES	KG		Trickle	CMP	Circular	Single	20	No	Corrosion	None	None	Normal
23	IDDE10H		2018 AB	YES	KG		No	CMP	Circular	Single	50	Partially (Water)	Corrosion	None	None	Normal
24	CP101/9B34		2018 AB	YES	KG		Trickle	CMP	Circular	Single	43	Partially (Water)	Corrosion, Cracking, Chipping	None	None	Normal
25	CP101		2018 AB	YES	KG		No	CMP	Circular	Single	36	Partially (Water)	Corrosion; Spalling, Cracking or Chipping	None	None	Normal
26	CP002		2018 AB	YES	KG		No	CMP	Circular	Single	15	No	Corrosion	None	None	Normal
27	CP004		2018 AB	YES	KG		No	PVC	Circular	Single	14	Partially (Water)	None	None	None	Normal
28	CP003		2018 AB	YES	KG		No	PVC	Circular	Single	15	Partially (Water)	None	None	None	Normal
29	OC006		2018 AB	YES	KG		No	Earthen	Parabolic		No		Sidewall Erosion	None	None	Normal
30	IDDE14		2018 AB	YES	KG		No	HDPE	Circular	Single	24	No	None	None	None	Normal
31	CP202		2018 AB	YES	KG		No	PVC	Circular	Single	8	No	None	None	None	Normal
32	OC204		2018 AB	YES	KG		No	Rip-Rap	Trapezoid		No		None	None	None	Normal
33	OC203		2018 AB	YES	KG		No	Earthen	Trapezoid		No		None	None	None	Normal
34	CP250		2018 AB	YES	KG		No	PVC	Circular	Single	15	No	None	None	None	Excessive
35	CP251		2018 AB	YES	KG		No	PVC	Circular	Single	15	No	None	None	None	Excessive
36	CP252		2018 AB	YES	KG		No	PVC	Circular	Single	15	Fully (Water)	None	None	None	Normal
37	CP253		2018 AB	YES	KG		No	PVC	Circular	Single	4	Fully (Water)	None	None	None	Normal
38	CP225		2018 MB	YES	KG		Trickle	HDPE and PVC	Circular	Double	4, 18	No	None	None	None	Excessive
39	CP221		2018 MB	YES	KG		No	PVC	Circular	Single	13	Partially (Water)	None	None	None	Normal
40	CP220		2018 MB	YES	KG		No	Concrete	Circular	Single	36	No	None	None	None	Normal
41	CP224		2018 MB	YES	KG		No	HDPE	Circular	Single	24	No	None	None	None	Normal
42	CP222		2018 MB	YES	KG		No	HDPE	Circular	Single	18	No	None	None	None	Normal
43	CP223		2018 MB	YES	KG		No	Concrete	Circular	Single	12	No	Pipe broken / collapsed	None	None	Excessive
44	CP104		2018 AB	YES	KG		Moderate	PVC	Circular	Single	28	No	Cracking	None	None	Normal
45	OC205		2018 AB	YES	KG		No	Earthen	Parabolic		No		None	None	None	Normal
46	CP256		2018 AB	YES	KG		No	PVC	Circular	Single	4	No	None	None	None	Normal
47	CP257		2018 AB	YES	KG		No	CMP	Elliptical	Single	40	No	None	None	None	Normal
48	CP016		2018 AB	YES	KG		No	HDPE	Circular	Single	18	No	None	None	None	Normal
49	OC011		2018 AB	YES	KG		No	Rip-Rap	Other				Erosion	None	None	Normal
50	OC010		2018 AB	YES	KG		No	Rip-Rap	Parabolic				None	None	None	Normal
51	CP033		2018 AB	YES	KG		No	PVC	Circular	Single	15	No	Partially clogged w/ rocks and sticks	None	None	Normal
52	CP034		2018 AB	YES	KG		No	PVC	Circular	Single	15	No	None	None	None	Normal
53	Fairway Drive_3		2018 AB	YES	KG		No	HDPE	Circular	Single	15	No	None	None	None	Excessive
54	Fairway Drive_2		2018 AB	YES	KG		Trickle	HDPE	Circular	Single	15	Partially (Sediment)	None	None	None	Normal
55	Tamarack_1		2018 AB	YES	KG		No	HDPE	Circular	Single	18	Partially (Sediment)	None	None	None	Excessive
56	Tamarack_2		2018 AB	YES	KG		No	HDPE	Circular	Single	24	Partially (Sediment)	None	None	None	Normal
57	Katie Lane		2018 WR	YES	KG		No	PVC	Circular	Single	18	No	None	None	None	Excessive
57	IDDE10I		2018 AB	YES	KG		Trickle	CMP	Circular	Single	24	No	Corrosion	None	None	Normal
58	CP261		2018 AB	YES	KG		No	Polymer Coated M	Circular	Single	18	Partially (Water)	Cracking, Chipping	None	None	Normal
58	CP259		2018 AB	YES	KG		No	PVC	Circular	Single	15	Partially (Water)	None	None	None	Excessive
59	CP262		2018 WR	YES	KG		No	PVC	Circular	Double	12	No	None	Sour	None	Normal
59	CP258		2018 AB	YES	KG		No	PVC	Circular	Single	15	Partially (Water)	None	Slight	None	Excessive
60	Honeysuckle		2018 WR	YES	KG		No	PVC	Circular	Single	19	No	None	None	None	Normal
60	CP260		2018 AB	YES	KG		No	PVC	Circular	Single	15	Partially (Water)	None	None	None	Excessive
61	Bittersweet		2018 WR	YES	KG		No	PVC	Circular	Single	12	No	Corrosion	None	Rust or Oil	Normal
62	Hannon Drive		2018 WR	YES	KG		No	CMP	Circular	Single	36	No	Corrosion	None	None	Normal
63	Day Lane		2018 MB	YES	KG		No	HDPE	Circular	Single	12	No	None	None	None	Normal
64	Day Lane_2		2018 MB	YES	KG		No	HDPE	Circular	Single	12	No	None	None	None	Normal
65	Day Lane_3		2018 MB	YES	KG		No	PVC	Circular	Single	24	Partially (Water and Sediment)	None	None	None	Normal
66	CP260		2018 AB	YES	KG		No	PVC	Circular	Single	15	Partially (Water)	None	None	None	Normal
67	CP259		2018 AB	YES	KG		No	PVC	Circular	Single	15	Partially (Water)	None	None	None	Excessive
68	CP258		2018 AB	YES	KG		No	PVC	Circular	Single	15	Partially (Water)	None	Slight	None	Excessive
69	IDDE10I		2018 AB	YES	KG		Trickle	CMP	Circular	Single	24	No	Corrosion	None	None	Noral

OBJECTID	SiteID	Benthicgrowth	Pool_Quality	Flow_Color	Flow_Turbidity	Flow_Float	Other_Conc
1	IDDE20	None	Okay: odor	Clear	Normal	None	
2	CP062	None	Poor: suds, colors	Clear	Normal	Suds	
3	CP061	None	Good	Clear	Normal	None	
4	CP063	None	Good	Clear	Normal	None	
5	ID001	None	Good	Clear	Normal	None	
6	ID002	None	Good	Clear	Normal	None	
7	ID003	None	Good	Clear	Normal	None	
8	IDDE12	Orange	Good	Clear	Normal	None	
9	IDDE13	None	Good	Clear	Normal	None	
10	CP213	None	Okay: odor	Clear	Normal	None	
11	Cedar1	None	Good	None	None	None	
12	CP027	Orange	Poor: Colors, Excessive Algae	Faint Brown/Orange	Slight Cloudiness	None	
13	CP028	None	No Pool	None	None	None	
14	CP025	None	No Pool	None	None	None	
15	CP026	Brown/Orange	Poor: Excessive Algae	Clear	None	None	
16	CP023	None	No Pool	None	None	None	
17	CP058	None	No Pool	None	None	None	
18	IDDE7	None	No Pool	None	None	None	
19	IDDE8	None	No Pool	None	None	None	
20	CP229	Green	Okay: Excessive Algae	Faint Green	Normal	None	
21	CP230	Green	Poor: Odors, Excessive Algae, Dead animal	Faint Green	Cloudy	Dead Rodent	
22	CP231	Green	Okay: Excessive Algae	Faint Green	Normal	None	
23	IDDE10H	Orange	Good	None	None	None	
24	CP101/9B34	Brown/Green	Suds	Clear	Normal	Suds	
25	CP101	None	Good	None	None	None	
26	CP002	None	No Pool	None	None	None	
27	CP004	Orange	Excessive Algae	None	None	None	
28	CP003	None	Good	None	None	None	
29	OC006	None	Good	None	None	None	
30	IDDE14	Brown	Good	None	None	None	
31	CP202	None	No Pool	None	None	None	
32	OC204	None	No Pool	None	None	None	
33	OC203	None	No Pool	None	None	None	
34	CP250	None	Good	None	None	None	
35	CP251	None	Good	None	None	None	
36	CP252	None	Excessive Algae	None	None	None	
37	CP253	None	Excessive Algae	None	None	None	
38	CP225	None	Good	Clear	Normal	None	
39	CP221	None	Excessive Algae	None	None	None	
40	CP220	None	Excessive Algae	None	None	None	
41	CP224	None	Excessive Algae	None	None	None	
42	CP222	None	No Pool	None	None	None	
43	CP223	None	Good	None	None	None	
44	CP104	Green	Good	Faint Green	Normal	None	
45	OC205	None	No Pool	None	None	None	
46	CP256	None	No Pool	None	None	None	
47	CP257	None	Good	None	None	None	
48	CP016	None	No Pool	None	None	None	
49	OC011	None	No Pool	None	None	None	
50	OC010	None	No Pool	None	None	None	
51	CP033	None	No Pool	None	None	None	
52	CP034	None	No Pool	None	None	None	
53	Fairway Drive_3	None	Good	None	None	None	
54	Fairway Drive_2	Green	Good	None	None	None	
55	Tamarack_1	None	Good	None	None	None	
56	Tamarack_2	None	No Pool	None	None	None	
57	Katie Lane	None	No Pool	None	None	None	
57	IDDE10I	Brown/Green	Good	Clear	Normal	None	
58	CP261	None	Good	None	None	None	
58	CP259	None	Good	None	None	None	
59	CP262	None	Green	None	None	None	
59	CP258	Brown	Okay: odor	None	None	None	
60	Honeysuckle	None	No Pool	None	None	None	
60	CP260	None	Good	None	None	None	
61	Bittersweet	None	No Pool	None	None	None	
62	Hannon Drive	None	No Pool	None	None	None	
63	Day Lane	None	No Pool	None	None	None	
64	Day Lane_2	None	Good	None	None	None	
65	Day Lane_3	None	Good	None	None	None	
66	CP260	None	Good	None	None	None	
67	CP259	None	Good	None	None	None	
68	CP258	Brown	Good except slight odor	None	None	None	
69	IDDE10I	Brown/Green	Good	Clear	Normal	None	

OBJECTID	SiteID	Comment	Field Comment	Landuse	Overall Classification
1	IDDE20	located in pond near diving plank	Wingwall / apron broken and rusted off	Commercial	Unlikely
2	CP062			Commercial	Potential
3	CP061			Commercial	Unlikely
4	CP063			Commercial	Unlikely
5	ID001			Commercial	Unlikely
6	ID002			Commercial	Unlikely
7	ID003		Rusted, cracking apron	Commercial	Unlikely
8	IDDE12			Commercial	Unlikely
9	IDDE13		Quite a bit of trash in and around pipe	Commercial	Unlikely
10	CP213	Maybe 2 culverts from other side of road. Dimensions for concrete not taken	Steel pipe crushed, steel pipe almost filled halfway with water	Industrial	Unlikely
11	Cedar1	Located directly to the left of CP027 if facing CP027		Suburban Resider	Unlikely
12	CP027	Flow was very little and close to sediment so this may have affected pH and flow rate	Lots of algae	Suburban Resider	Potential
13	CP028			Suburban Resider	Unlikely
14	CP025			Suburban Resider	Unlikely
15	CP026			Suburban Resider	Potential
16	CP023			Suburban Resider	Unlikely
17	CP058			Suburban Resider	Unlikely
18	IDDE7		Trash and infrastructure repairs	Institutional	Unlikely
19	IDDE8	culvert under bike path, in patch of trees		Institutional	Unlikely
20	CP229	Pipe flowing into stormwater pond	Rusty	Suburban Resider	Potential
21	CP230	The rancid smell is most likely due to the dead animal floating	Stormwater pond inlet	Suburban Resider	Potential
22	CP231	Flowing into stormwater pond.	Slightly Rusty	Suburban Resider	Potential
23	IDDE10H	The orange benthic growth could be rust	Rusty	Suburban Resider	Unlikely
24	CP101/9B34			Suburban Resider	Potential
25	CP101			Suburban Resider	Unlikely
26	CP002			Suburban Resider	Unlikely
27	CP004		Water is Orange	Suburban Resider	Potential
28	CP003		Stormwater pond inlet	Suburban Resider	Unlikely
29	OC006			Suburban Resider	Unlikely
30	IDDE14			Suburban Resider	Unlikely
31	CP202			Suburban Resider	Unlikely
32	OC204			Suburban Resider	Unlikely
33	OC203			Suburban Resider	Unlikely
34	CP250		Stormwater pond inlet	Suburban Resider	Unlikely
35	CP251		Stormwater pond inlet	Suburban Resider	Unlikely
36	CP252	Trash	Stormwater pond inlet	Institutional	Unlikely
37	CP253	Trash	Stormwater pond inlet	Institutional	Unlikely
38	CP225			Commercial	Unlikely
39	CP221	Trash	Stormwater pond inlet	Commercial	Unlikely
40	CP220		Stormwater pond inlet	Commercial	Unlikely
41	CP224	Trash	Stormwater pond inlet	Commercial	Unlikely
42	CP222	Trash	Might be stormwater pond outlet	Commercial	Unlikely
43	CP223	Trash		Commercial	Unlikely
44	CP104			Suburban Resider	Potential
45	OC205		Leads to catch basin	Suburban Resider	Unlikely
46	CP256		Leads to catch basin	Suburban Resider	Unlikely
47	CP257		Culvert but comes from pond across road	Suburban Resider	Unlikely
48	CP016			Commercial	Unlikely
49	OC011			Commercial	Unlikely
50	OC010			Commercial	Unlikely
51	CP033		Stormwater pond outlet	Suburban Resider	Unlikely
52	CP034		Stormwater pond outlet	Suburban Resider	Unlikely
53	Fairway Drive_3			Suburban Resider	Unlikely
54	Fairway Drive_2	Moss, grass clippings	Stormwater pond inlet from Fairway Dr. catch basins	Suburban Resider	Unlikely
55	Tamarack_1		From Tamarack Dr. catch basins	Suburban Resider	Unlikely
56	Tamarack_2	From Tamarack dr catch basins	Fine sediment on apron. Pipe has moss growing inside	Suburban Resider	Unlikely
57	Katie Lane		From Katie Lane catch basins	Suburban Resider	Unlikely
57	IDDE10I	Stormwater pond inlet		Suburban Resider	Unlikely
58	CP261			Suburban Resider	Unlikely
58	CP259	Stormwater pond inlet		Suburban Resider	Unlikely
59	CP262		From Bittersweet Circle Catch basins	Suburban Resider	Potential
59	CP258		Stormwater pond inlet	Suburban Resider	Potential
60	Honeysuckle		From Honeysuckle Ln catch basins	Suburban Resider	Unlikely
60	CP260		Stormwater pond inlet	Suburban Resider	Unlikely
61	Bittersweet	Apron needs repaired	Apron is completely corroded off, stained sediment under pipe. Sediment stain	Suburban Resider	Potential
62	Hannon Drive		Might be culvert for creek	Suburban Resider	Unlikely
63	Day Lane		Stormwater pond inlet	Suburban Resider	Unlikely
64	Day Lane_2		Lots of trash	Suburban Resider	Unlikely
65	Day Lane_3		Trash and infrastructure repairs	Suburban Resider	Unlikely
66	CP260	Stormwater pond inlet		Suburban Resider	Unlikely
67	CP259	Stormwater pond inlet		Suburban Resider	Unlikely
68	CP258		Forest of vegetation	Suburban Resider	Potential
69	IDDE10I		Stormwater pond inlet	Suburban Resider	Unlikely

STORMWATER POLLUTON FOUND IN YOUR AREA! *This is not a citation.*

This is to inform you that our staff found the following pollutants in the storm sewer system in your area. This storm sewer system leads untreated to local streams and to LAKE CHAMPLAIN.









- Motor Oil
- Oil filters
- Antifreeze/transmission fluid
- Paint
- Solvent/degreaser
- Cooking grease
- Detergent
- Home improvement waste (concrete, mortar)
- Pet waste
- Yard waste (leaves, grass, mulch)
- Excessive dirt and gravel
- Trash
- Construction debris
- Pesticides and fertilizers
- Other _____

Dumping of wastes into storm drains is PROHIBITED under municipal ordinances. Illegal dumping can carry severe penalty. For more information or to report an illegal discharge of pollutants, please call the Town of Williston Public Works Department at 878-1239.



Stormwater runoff is rain or snowmelt that flows over the ground. As it flows, it can pick up debris, chemicals, dirt and other pollutants and deposit them into a storm sewer system and flow **untreated** into the water bodies we use for swimming, fishing and providing drinking water.

To keep the stormwater leaving your home or workplace clean, follow these simple guidelines:

-  Use pesticides and fertilizers sparingly.
-  Repair auto leaks.
-  Dispose of household hazardous waste, used auto fluids (antifreeze, oil, etc.) and batteries at your local Chittenden Solid Waste District drop off center.
-  Clean up after your pet and dispose of it properly.
-  Use a commercial car wash or wash your car on a lawn or other unpaved surface.
-  Sweep up yard debris rather than hosing it to a drain. Compost or recycle yard waste.
-  Clean paint brushes in a sink, not outdoors. Properly dispose of excess paints through the CSWD household hazardous waste collection program.
-  Sweep up and properly dispose of construction debris like concrete and mortar.

REMEMBER:
ONLY rain
down the
drain!



CSWD
Chittenden Solid Waste District
1021 Redmond Rd., Williston, VT 05495
872-8111 • www.cswd.net

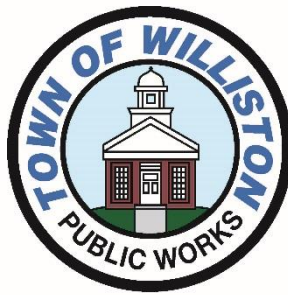


<http://rethinkrunoff.org/>

Appendix D

Town of Williston MS4 Annual Report

MCM #4 & MCM #5



Additional Information Available at the Following Links

[Public Works Standards and Specifications](#)

[Unified Development Bylaws: Chapter 29 Watershed Health](#)

[Stormwater Fee Customer Service Manual](#)

[Stormwater Fee Customer Service Form](#)

[Stormwater Fee Flow Chart](#)

[Stormwater Fee Non-Single Family Residence \(NSFR\) Example Calculation](#)

[Stormwater User Fee Credit Manual](#)

[Stormwater Loan Policy](#)

[Neighborhood Stormwater Grant Policy](#)

[Residential Expired Stormwater Permit Policy](#)

[Agricultural Grant Policy](#)

Zoning Permit #	Tax Parcel #	Development Site Street #	Development Site Street Name	Subdivision Name	Lot Size (acres)	Date Received	Decision Date	Area of Disturbance (square feet)	New Impervious (square feet)
AP-18-0167	08:104:010.142	548	Zephyr Road			2/27/2018	3/5/2018	8,760	7,574
AP-18-0168	08:104:010.141	552	Zephyr Road			2/27/2018	3/5/2018	8,760	7,574
AP-18-0169	08:104:010.140	556	Zephyr Road			2/27/2018	3/5/2018	8,760	7,574
AP-18-0170	08:104:010.139	560	Zephyr Road			2/27/2018	3/5/2018	8,760	7,574
AP-18-0171	15:099:033.122	41	Creek's Edge Drive	Creek's Edge		2/27/2018	3/12/2018	2,720	3,395
AP-18-0182	10:099:090.000	1452	North Williston Road		1	3/28/2018	4/2/2018		120
AP-18-0192	09:080:115.000	612	Metcalf Drive		0.3	4/10/2018	4/16/2018		112
AP-18-0198	07:069:043.000	1417	Marshall Avenue		3	4/20/2018	4/27/2018	110,000	57,650
AP-18-0206	14:104:130.000	195	Central School Drive			4/25/2018	4/30/2018		250
AP-18-0208	08:037:012.000	126	White Birch Lane			4/26/2018	4/30/2018		700
AP-18-0209	20:100:065.000	1324	Oak Hill Road		14.47	4/26/2018	4/30/2018		288
AP-18-0213	07:008:016.000	353	North Brownell Road		0.46	4/30/2018	4/30/2018	468	468
AP-18-0214	15:115:040.001	215	Heartstone Lane		2.1	5/2/2018	5/7/2018	7,000	4,000
AP-18-0219	24:024:030.000	461	Christmas Lane		2.89	5/4/2018	5/7/2018	3,000	484
AP-18-0220	19:126:016.000	134	Porterwood Drive		0.42	5/4/2018	5/7/2018		448
AP-18-0222	08:104:010.421	27	Kettlepond Road			5/7/2018	5/14/2018	12,850	12,310
AP-18-0223	08:104:010.422	27	Kettlepond Road			5/7/2018	5/14/2018	12,850	12,310
AP-18-0224	08:104:010.423	27	Kettlepond Road			5/7/2018	5/14/2018	12,850	12,310
AP-18-0225	08:104:010.424	27	Kettlepond Road			5/7/2018	5/14/2018	12,850	12,310
AP-18-0226	08:104:010.425	27	Kettlepond Road			5/7/2018	5/14/2018	12,850	12,310
AP-18-0227	08:104:010.426	27	Kettlepond Road			5/7/2018	5/14/2018	12,850	12,310
AP-18-0228	08:104:010.427	27	Kettlepond Road			5/7/2018	5/14/2018	12,850	12,310
AP-18-0229	08:104:010.428	27	Kettlepond Road			5/7/2018	5/14/2018	12,850	12,310
AP-18-0230	08:104:010.429	27	Kettlepond Road			5/7/2018	5/14/2018	12,850	12,310
AP-18-0233	09:070:004.000	134	Turtle Pond Road			5/8/2018	5/14/2018		940
AP-18-0234	03:109:005.072	243	Eastview Circle			5/9/2018	5/16/2018		144
AP-18-0240	09:104:066.000	6765	Williston Road			5/14/2018	5/14/2018		400
AP-18-0242	19:126:014.000	108	Porterwood Drive			5/16/2018	5/21/2018		296
AP-18-0244	09:159:006.000	---	Ledgewood Drive		1.64	5/18/2018	5/21/2018	70,000	8,000
AP-18-0245	24:028:030.002	620	Pumpkin Hill Road	Scott Gardner subdivision	11.59	5/18/2018	5/21/2018	8,000	3,614
AP-18-0247	22:103:199.000	5418	St George Rd		7.89	5/18/2018	5/21/2018		1,456
AP-18-0249	08:088:035.000	235	Isham Circle			5/25/2018	5/29/2018		52
AP-18-0264	13:119:001.000	71	Highlands Drive		3	6/12/2018	6/18/2018	500	230
AP-18-0273	08:104:010.135	582	Zephyr Road			6/21/2018	6/26/2018	8,760	7,572
AP-18-0274	08:104:010.136	578	Zephyr Road			6/21/2018	6/26/2018	8,760	7,572
AP-18-0275	08:104:010.137	574	Zephyr Road			6/21/2018	6/26/2018	8,760	7,572
AP-18-0276	08:104:010.138	570	Zephyr Road			6/21/2018	6/26/2018	8,760	7,572
AP-18-0277	19:057:005.000	101	Oak Hill Road		0.9	6/22/2018	6/25/2018	684	2,148
AP-18-0279	21:023:034.000	1300	East Hill Road		2	6/25/2018	6/25/2018	200	623
AP-18-0280	08:037:044.000	450	White Birch Lane		0.46	6/26/2018	7/2/2018	1,060	960
AP-18-0284	20:021:089.001	---	Sunset Hill Road			6/28/2018	7/2/2018	7,000	7,000
AP-19-0001	08:191:048.000	359	Barrett Lane		0.58	7/2/2018	7/9/2018	900	900
AP-19-0003	24:166:101.001	330	Fieldstone Drive		1.31	7/5/2018	7/9/2018	5,000	3,500
AP-19-0007	14:104:130.000	195	Central School Drive			7/9/2018	7/16/2018	2,968	2,968
AP-19-0016	09:172:050.000	255	Wildflower Circle			7/16/2018	7/16/2018		64
AP-19-0021	13:098:032.000	505	Old Creamery Road		3	7/18/2018	7/23/2018	7,500	3,000
AP-19-0023	23:100:181.000	3250	Oak Hill Road		50.82	7/19/2018	8/10/2018	20,000	7,925
AP-19-0024	03:009:018.000	361	Mountain View Road			7/24/2018	7/30/2018		500
AP-19-0026	08:037:028.000	300	White Birch Lane			7/26/2018	7/30/2018	280	320
AP-19-0027	13:098:021.001	33	Snowdrift Lane		4	7/26/2018	7/30/2018	500	500
AP-19-0030	24:028:030.002	620	Pumpkin Hill Road		2	7/30/2018	8/6/2018	2,500	1,500
AP-19-0033	07:008:009.000	450	North Brownell Road		0.72	8/6/2018	8/13/2018	220	220
AP-19-0036	10:099:090.000	1452	North Williston Road		1	8/13/2018	8/13/2018		384
AP-19-0041	03:048:006.000	86	Sharon Drive		0.5	8/14/2018	8/20/2018		450
AP-19-0042	08:191:052.000	638	Hanon Drive		0.55	8/22/2018	8/27/2018		80
AP-19-0045	09:112:023.000	333	Southfield Drive		0.48	8/23/2018	8/27/2018		76
AP-19-0047	10:099:055.001	55	Keystone Drive			8/23/2018	8/27/2018		392
AP-19-0050	18:003:136.000	2692	South Brownell Road		15.041	8/27/2018	8/27/2018	384	468
AP-19-0052	08:104:010.149	149	Creek's Edge Drive			8/28/2018	9/10/2018	3,166	3,318
AP-19-0054	08:104:010.411	201	Holland Lane			9/6/2018	9/10/2018	12,865	12,318
AP-19-0055	08:104:010.412	201	Holland Lane			9/6/2018	9/10/2018	12,865	12,318
AP-19-0056	08:104:010.413	201	Holland Lane			9/6/2018	9/10/2018	12,865	12,318
AP-19-0057	08:104:010.414	201	Holland Lane			9/6/2018	9/10/2018	12,865	12,318
AP-19-0058	08:104:010.415	201	Holland Lane			9/6/2018	9/10/2018	12,865	12,318
AP-19-0059	08:104:010.416	201	Holland Lane			9/6/2018	9/10/2018	12,865	12,318
AP-19-0060	08:104:010.417	201	Holland Lane			9/6/2018	9/10/2018	12,865	12,318
AP-19-0061	08:104:010.418	201	Holland Lane			9/6/2018	9/10/2018	12,865	12,318
AP-19-0062	08:104:010.419	201	Holland Lane			9/6/2018	9/10/2018	12,865	12,318
AP-19-0063	08:037:039.000	403	White Birch Lane			9/7/2018	9/10/2018		432
AP-19-0077	10:171:009.000	68	Jensen Road			9/21/2018	9/24/2018	100	64
AP-19-0093	07:016:010.000	85	Shunpike Road		4.77	10/10/2018	10/16/2018	921	921
AP-19-0096	15:099:033.118	97	Creek's Edge Drive			10/18/2018	10/31/2018	3,828	3,681
AP-19-0097	08:102:006.168	215	Day Lane		0.05	10/19/2018	1/3/2018	2,178	2,178
AP-19-0099	20:021:092.000	45	Deer Run Road		1.47	10/22/2018	10/29/2018	1,080	1,080
AP-19-0102	08:143:010.000	31	Market Street		0.78	10/23/2018	10/31/2018	76,000	36,110
AP-19-0103	08:104:010.401	132	Stillwater Lane			10/24/2018	10/31/2018	13,125	12,398
AP-19-0105	26:100:225.100		Lake View Farm, Inc			10/25/2018	10/29/2018	2,500	3,730
AP-19-0111	13:098:030.000	457	Old Creamery Road		1.05	11/1/2018	11/5/2018		132
AP-19-0115	15:099:033.112	167	Creek's Edge Drive			11/6/2018	11/27/2018	3,894	3,745
AP-19-0118	26:029:012.000	394	Willow Brook Lane			11/8/2018	11/13/2018	1,500	864
AP-19-0121	07:016:016.000	327	Holly Court			11/14/2018	11/19/2018		256
AP-19-0122	22:003.233.000	4292	South Brownell Road			11/26/2018	12/10/2018	1,620	1,620
AP-19-0123	15:099:033.113	157	Creek's Edge Drive	Creek's Edge		11/16/2018	11/27/2018	2,419	2,760
Total								664,730	472,550

Town of Williston

LOW IMPACT RUNOFF & EROSION CONTROL CHECKLIST

This checklist must ordinarily be submitted whenever a development will involve clearing, grading, or disturbance of between 0.25 (1/4) and 2 acres of land. Larger developments and all development that impacts a watershed protection buffer or a slope of 8% or more must submit a Runoff and Erosion Control Plan. By initialling the checklist, the applicant indicates he/she will comply with the performance standards. Failure to implement and maintain the required runoff and erosion control measures is a violation of the *Williston Development Bylaw*, subject to enforcement as provided by WDB 7.4 and 7.5 For more information on how to implement erosion control measures, please refer to the State of Vermont's *Low Risk Site Handbook for Erosion and Sediment Control*, which is available online at: http://www.vtwaterquality.org/stormwater/docs/construction/sw_low_risk_site_handbook.pdf).

applicant

administrator

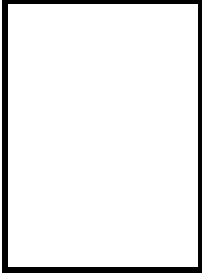
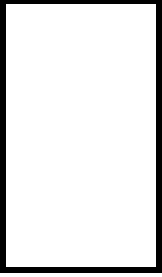
Mark Construction Limits. Before beginning construction, the limits of construction impact must be physically marked on-site, using orange flagging or safety fence. A protection zone must also be established around any existing vegetation that is to be retained, to the dripline of the vegetation). All Class 2 wetlands and land in Watershed Protection Buffers must be outside the marked construction limits.

Stabilize Construction Entrance/Exit. If you are going to be driving **any** vehicles on and off the construction site, the construction entrance/exit must be stabilized. Geotextile filter cloth must be put down and covered with clean 1" to 4" gravel at least 8 inches thick. The stabilized entrance must be 12 feet in width and a minimum of 40 feet in length (or the length of the driveway if this is shorter than 40').

Install Silt Fence. Silt fence must be installed on the downhill side of construction activities in order to intercept runoff and allow sediment to settle out. Ensure that the silt fence catches all runoff from bare soil, and is installed across the slope *prior to the start of construction activity*. Hay bales may NOT be substituted for silt fence.

Divert Upland Runoff. Create diversion berms to intercept and divert upslope runoff before it reaches your construction site. Compact the berm with a shovel and stabilize it and the channel below it with seed or erosion control matting.

Slow Down Channelized Runoff. Stone check dams must be installed in all channels and/or ditches which will be used to divert or direct stormwater flow. The spacing of check dams must be equal to the height of the check dam divided by the channel slope. Hay bales may not be used as check dams.



Stabilize Exposed Soil. All areas of disturbed soil must have temporary or permanent stabilization within 14 days of initial disturbance. Temporary stabilization can be achieved by seeding and mulching, or applying erosion control matting after the day's construction activity is finished. After final grade is achieved, permanent stabilization must follow within 48 hours, via seeding and mulching, or hydroseeding.

I understand the erosion and runoff control requirements of the *Williston Development Bylaw*, as they are embodied in this checklist and certify that, if approved, the development I have proposed will proceed in full compliance with these requirements.

Applicant's Signature: _____ Date: _____

Town of Williston

RUNOFF & EROSION CONTROL PLAN CHECKLIST, AS REQUIRED BY WDB 29.4.1

This checklist must be submitted with permit applications for proposed developments that will result in significant clearing and grading (greater than 2 acres) or where development will occur in a vulnerable area, such as a watershed protection buffer or on slopes greater than 8%. Smaller projects that are outside vulnerable areas will need to submit the Low Impact Runoff and Erosion Control Checklist. Please see WDB 29.2-4 to determine which checklist you need to submit. If you are required to use this checklist, attach it to the Discretionary Permit Application Checklist or Administrative Permit Application.

Applicant Administrator All runoff and erosion control plans must contain:

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Hydrology. Runoff and erosion control plans shall show existing wetlands, springs, streams, ponds, lakes, drainage ditches, wells, and other hydrologic features of the proposed development site. They shall also show nearby waters that may be affected by the proposed development, including those that will receive runoff from the proposed development and those from which a watershed protection buffer extends onto the proposed development site. A separate vicinity map may be used to show nearby waters.

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Existing Conditions. Runoff and erosion control plans shall show all existing impervious surfaces and surface drainage and stormwater management measures on the proposed development site. They shall also show all existing surface drainage and stormwater management installations, including catch basins, that will receive runoff from the proposed development. A separate vicinity map may be used to show nearby installations.

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Buffers. Where applicable, required watershed protection buffers shall be clearly delineated on all runoff and erosion control plans.

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Soils. Runoff and erosion control plans shall show the soil mapping units found on the site, as identified by the Natural Resources Conservation Service, as well as any prominent geologic features, including bedrock outcrops. The relevant characteristics of each soil mapping unit, including slope, erosion hazard, hydrologic group, and “k” value shall be shown in an accompanying legend or table.

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Vegetation. Runoff and erosion control plans shall show the existing vegetation on the site in sufficient detail to demonstrate compliance with the performance standards of Chapter 29. This may include mapping individual trees and other plants. The level of mapping needed shall be determined at the pre-application conference. A starting point for that determination shall be the mapping of all live trees and snags with a dbh of six (6) or more inches.

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Construction Measures. Runoff and erosion control plans shall show disturbance limits and all other measures proposed to prevent accelerated runoff and erosion during construction including all details needed to demonstrate compliance with the performance standards of Chapter 29.

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Permanent Measures. Runoff and erosion control plans shall show all measures proposed to manage runoff and limit erosion during the long-term use of the proposed development, including all details needed to demonstrate compliance with the performance standards of Chapter 29.

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Calculations. Runoff and erosion control plans shall be accompanied by all calculations used to size the measures proposed.

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Schedule. Runoff and erosion control plans shall include a coordinated schedule for the clearing and grading of the site and for the installation of all measures required to implement these performance standards.

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Inspections. Runoff and erosion control plans shall include an inspection schedule for runoff and erosion control measures used during the construction period.

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Maintenance. A maintenance manual and schedule shall be provided for all permanent measures.

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Images. The use of aerial and/or still photography or visual simulations illustrating existing site conditions and proposed features of the runoff and erosion control plan may be required. The need for such illustration will be determined at the pre-application conference.

I understand the erosion and runoff control requirements of the Williston Development Bylaw, as they are embodied in this checklist and certify that, if approved, the development I have proposed will proceed in full compliance with these requirements.

Applicant's Signature: _____ Date: _____

Appendix E

Town of Williston MS4 Annual Report

Flow Restoration Plan Update





Town of Williston
7900 Williston Road
Williston, VT 05495
•
1763
•
Public Works
(802) 878-1239

Municipal Separate Storm Sewer System (MS4) 2018 Annual Report

Flow Restoration Plan Summary

The Allen Brook Flow Restoration Plan (FRP) was approved by the state in 2016 and has been actively implemented since that time.

A significant portion of the improvements contained in the FRP includes the upgrade and retrofitting of permitted private home owner association stormwater systems which have not been maintained in good order. To incentivize these improvements Williston enacted a [policy](#) in which the town would assume responsibility for these systems once they were brought up to current state standards. Understanding that this is a costly endeavor for private associations Williston has crafted unique [grant](#) and [loan](#) policies to provide equitable financial assistance expediting these upgrades and associated compliance with state water quality standards. Through this program since 2015 Williston has obtained \$690,000 in grant funds, loaned approximately \$800,000 (with an additional \$500,000 pending in early 2019) and brought 12 of 18 systems to substantial completion. It is anticipated that three more neighborhoods will be substantially complete by the end of 2019 resulting in 78% of projects completed in a 5 year timespan. While the creation of these policies was a considerable administrative and technical effort, the program has achieved immense success in the implementation of these improvements.

Residential neighborhoods participating in the Allen Brook FRP (18 total under 17 permits) have achieved varying levels of completion. Status updates are as follows:

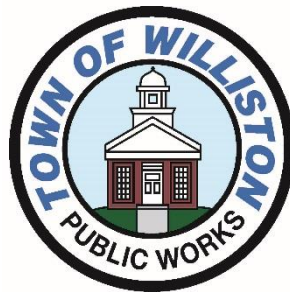
- 7 neighborhoods have been formally accepted by the town (Brennan Woods, Forest Run, Golf Links, Heritage Meadows, Meadow Run, Southridge, and Turtle Pond.).
- 3 neighborhoods are substantially complete and require finalized documentation prior to incorporation (Allen Brook Meadows, Pinecrest Village, and Pleasant Acres).
- 2 neighborhoods are actively under construction (Meadowridge and Old Stage Estates).
- 3 neighborhoods are slated to begin construction during 2019 (Indian Ridge, Tafts Farms Condominiums, and Williston Commons).
- The 3 remaining neighborhoods have not yet received grant funding or, to the Town's knowledge, begun the bid/construction process (Coyote Run, Turtle Crossing, and Whitney Hill).

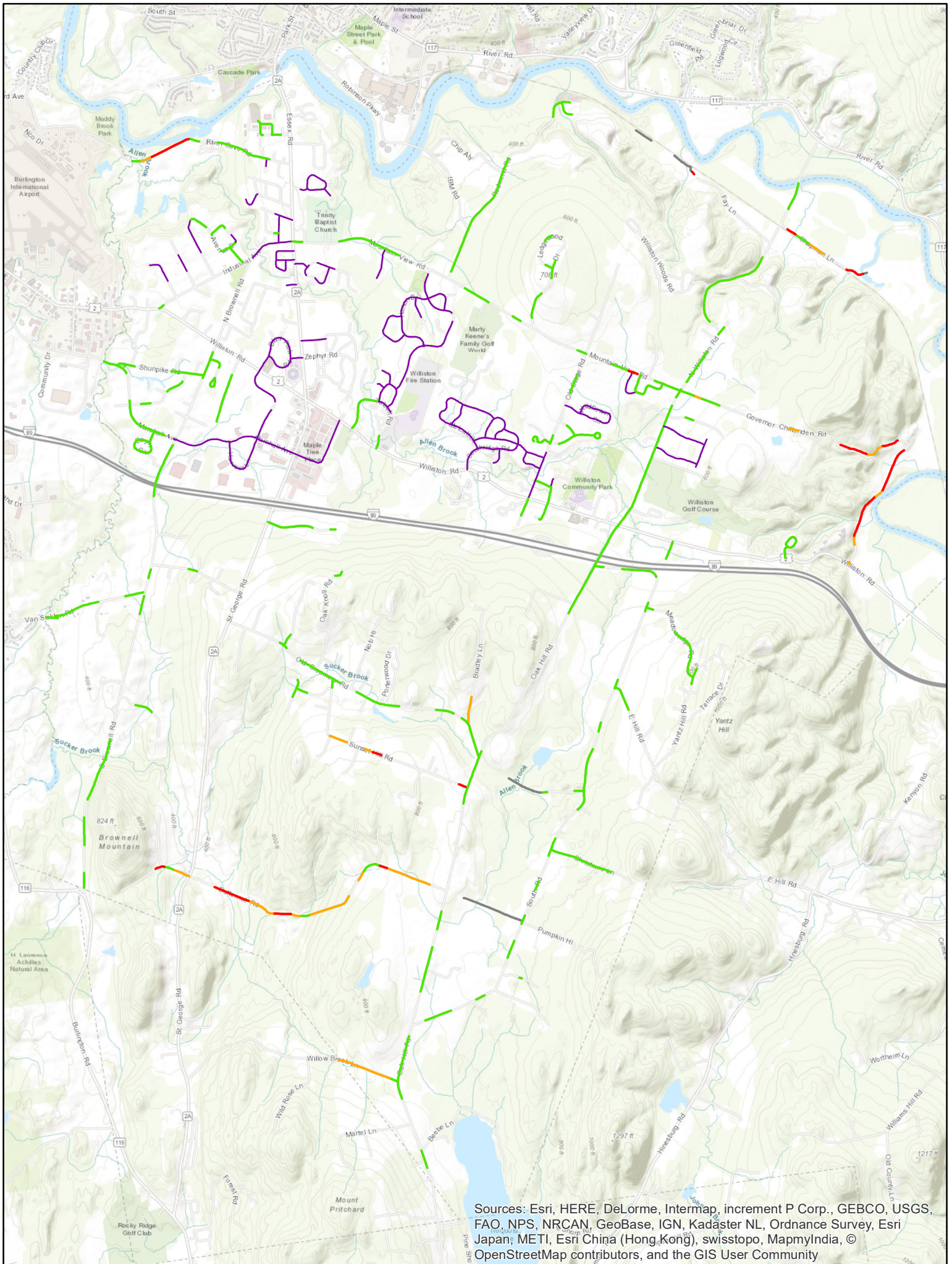
Appendix F

Town of Williston MS4 Annual Report

Road Erosion Inventory Data

Additional resources (GIS and Excel data) available upon request and at the following link ftp://ftp.ccrpcvt.org/Chris/REI_DATA/





Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Appendix G

Town of Williston MS4 Annual Report

Reliance on Other Entities to Meet Permit Obligations



**CHITTENDEN COUNTY MS4
STORMWATER PROGRAM AGREEMENT
EFFECTIVE July 1, 2017
Amended effective July 1, 2018**

Preamble

This Stormwater Program Agreement (“Agreement”) is entered into by and between a group of Municipal Separate Storm Sewer System (“MS4”) permittees (“MS4 Permittees”) and the Chittenden County Regional Planning Commission (“CCRPC”) to operate an MS4 Stormwater Program (“Program”) that conforms with and satisfies the relevant requirements of both Minimum Control Measure One (Public Outreach and Education) and Minimum Control Measure Two (Public Involvement and Participation) of the Phase II NPDES Permit issued by the Vermont Department of Environmental Conservation (“DEC”) on December 2012 through General Permit 3-9014 (“MS4 Permit”), as these requirements may be continued, renewed, amended, or otherwise modified during the term of this Agreement.

1. **Prior Agreements** – Effective July 1, 2017, this Agreement
 - a. supersedes an MOU signed by the CCRPC and twelve MS4 permittees, effective March 10, 2013 through March 9, 2018, governing the operation of a Regional Stormwater Education Program to satisfy the relevant requirements of Minimum Control Measure One (Public Outreach and Education), and
 - b. supersedes an MOU signed by the CCRPC and eleven MS4 permittees, effective July 1, 2011 through June 30, 2016, and an amendment to this MOU extending its effective date through June 30, 2017, governing the operation of a Regional Stormwater Public Involvement and Participation Program to satisfy the relevant requirements of Minimum Control Measure Two (Public Involvement and Participation).
2. **Service Agreement** – This Agreement constitutes a service agreement pursuant to 24 V.S.A. § 4345b (Intermunicipal Service Agreements).
3. **Definitions**—For purposes of this Agreement, the term “MS4 Permittees” includes the Vermont Agency of Transportation, which on December 28, 2016 became eligible for coverage under General Permit 3-9007 for Stormwater Discharges from the State Transportation Separate Storm Sewer System (TS4).
4. **Parties** – The following are the parties to this Agreement:
 - a. **MS4 Permittees** – the undersigned MS4 Permittees, and
 - b. **CCRPC** – the undersigned regional planning commission.
5. **MS4 Steering Committee**
 - a. **Composition** – The Members of the Steering Committee shall consist of one representative from each of the signatory MS4 Permittees to this Agreement. Another MS4 permittee may request

to join this Agreement if approved by a two-thirds vote of the Members. The Members shall be appointed either by the governing bodies of their municipalities at publicly warned meetings or, if a Member representing an MS4 Permittee is non-municipal agency, via a process consistent with that agency's policies. At its first meeting, the Steering Committee shall elect a Chair by a majority vote. The Chair shall serve until such time as the Chair resigns or the Steering Committee elects a new Chair.

- b. **Duties** – The Steering Committee shall direct the CCRPC on the development and performance of Program Services in particular and on all other matters bearing on the administration of this Agreement. All actions of the Steering Committee shall be by majority vote unless otherwise specified in this Agreement.
- c. **Organization of Meetings** – The Steering Committee shall meet on a quarterly basis at a minimum. The CCRPC shall provide Steering Committee Members with reasonable notice of meetings. Notice shall include a meeting agenda and draft meeting minutes. In addition, the CCRPC shall post notice of Steering Committee meetings on its website and on the Program website.

6. CCRPC

a. **Duties** – The CCRPC shall:

- 1) Administer this Agreement and agreements with contractors (including executing contracts approved by the Steering Committee, receiving and disbursing funds, and monitoring the provision of services) for the benefit of the MS4 Permittees.
- 2) Provide other services contributing to the operation of the Program (including, but not limited to, social media management, public relations, grant writing, creating and managing a Program website, organizing meetings as set forth in Section 4.c, above, etc.) as directed by the Steering Committee; and at a level consistent with each year's Program Budget as described in Section 8.b, below.
- 3) Provide a quarterly budget report to the Steering Committee detailing expenses the CCRPC incurred and the payments it has received.
- 4) Pay contractors and vendors for charges consistent with the relevant contract, using funds from the Program Budget, as defined in Section 8, below.
- 5) Upon approval of the Steering Committee or its designee, reimburse itself for personnel and other expenses for charges consistent with its duties, using funds from the Program Budget.
- 6) Consult with the Steering Committee prior to authorizing any contractor activities or charges outside the scope of work of a contract.
- 7) Notify the Steering Committee when 75% of the annual budget (as defined in Section 8, below) for an individual category of expenses (e.g., contractors, CCRPC fees, advertising, etc.) is reached. When these levels are reached, subsequent expenditures by the CCRPC in that category shall be reviewed and approved by the Steering Committee Chair in advance.

- 8) At the request of the Steering Committee, assign any or all contracts that the CCRPC has entered into pursuant to this Agreement to the MS4 Permittees who are signatories to this Agreement at the time or to another contractor of the Steering Committee's choosing.
 - 9) Comply with all applicable federal, state, and local laws, including Burlington's Livable Wage Ordinance as applicable.
- b. **Compensation** – Through the Program Budget, the MS4 Permittees shall compensate the CCRPC for the actual costs of performing its duties defined in Section 5.a, above; provided, however, that the CCRPC shall not be entitled to compensation that would exceed ten percent (10%) of the Program Budget as specified in Section 8.b, below, without the prior approval of a majority of the Steering Committee.
 - c. **Invoices** – The CCRPC shall invoice the Program to cover personnel charges, mileage reimbursement, and other direct expenses necessary to perform its duties. Personnel charges for CCRPC staff shall be calculated at a rate of salary plus fringe plus CCRPC's applicable indirect rate as required by 24 V.S.A. § 4345b. As set forth in Section 5.b, above, upon approval of the Steering Committee or its designee, the CCRPC may reimburse itself for charges consistent with its duties, using funds from the Program Budget.

7. Selection of Contractors

- a. The CCRPC, in consultation with the Steering Committee, shall competitively bid for contract(s) for Program services that collectively satisfy the requirements for Minimum Control Measure One (Public Outreach and Education) and Minimum Control Measure Two (Public Involvement and Participation) of the Phase II NPDES Permit then in effect. The parties to the contracts shall be the contractors and the CCRPC. All contracts shall require the contractor to indemnify and hold harmless the MS4 Permittees from any claims related to the contract and to procure and maintain liability insurance for all services performed under the contract.
- b. All contracts shall be awarded based on qualifications, price, and the ability of the entity to provide services that meet the relevant MS4 Permit requirements. The selection of contractors shall comply with the procurement policy of the CCRPC and with applicable state and federal procurement laws and procedures.
- c. Contracts shall generally be 1 to 5 years in length and shall include, but not be limited to, a Maximum Limiting Amount and the right of the CCRPC to 1) cancel a contract if services are not being adequately provided, 2) specify that payments to contractors shall be made only for services rendered, 3) specify the annual scope of work and budget as approved by the Steering Committee, 4) allow a contract extension if desired, and 5) assign the contract to the MS4 Permittees that are signatories to this Agreement at the time of the assignment or to a contractor of the Steering Committee's choosing.
- d. Contracting for services under this Agreement shall comply with the Fair Employment Act and Americans with Disabilities Act: the CCRPC shall comply with the requirement of Title 21 V.S.A Chapter 5, Subchapter 6, relating to fair employment practices, to the full extent applicable. The CCRPC shall also ensure, to the full extent required by the Americans with Disabilities Act of

1990, that qualified individuals with disabilities receive equitable access to the services, programs, and activities provided by the Steering Committee under this Agreement. This provision shall also be included in all contracts and subcontracts executed under this Agreement.

e. The CCRPC and the Steering Committee recognize the important contribution and vital impact which small businesses have on the State's economy. In this regard, the CCRPC shall ensure a free and open bidding process that affords all businesses equal access and opportunity to compete, except under circumstances where competitive bidding may not be practicable and is not required by applicable procurement policies. The CCRPC and the Steering Committee also recognize the existence of businesses owned by minorities and women, and the CCRPC shall make a good faith effort to encourage these firms to compete for contracts involving state or federal funds and comply with applicable law relating to civil rights and disadvantaged business enterprises.

8. **Program Services** – The Steering Committee, assisted by the CCRPC and its contractors, shall implement a unified Program that satisfies the relevant requirements of Minimum Control Measure One (Public Education and Outreach) and Minimum Control Measure Two (Public Involvement and Participation) of the MS4 Permit.

The Program Content for each Program Year shall be as defined in writing by a majority of the Steering Committee. The Program Year shall be the State of Vermont's fiscal year. The Program Content shall implement the following deliverables:

a. **Public Education and Outreach** – Elements shall include, at a minimum:

- 1) operating the Program's website, www.smartwaterways.org, or its equivalent; and
- 2) advertising in various media.

b. **Public Involvement and Participation** – Elements shall include, at a minimum:

- 1) operating the Program's website, www.ccstreamteam.org, or its equivalent;
- 2) hosting and/or organizing workshops, projects, and other events to engage the public; and
- 3) recruiting volunteers to support projects, promote events, and/or engage the public.

c. **End of MS4 permit year annual reporting** – Elements shall include preparation of a narrative report 25 business days prior to the MS4 Permittees' reporting deadline to DEC.

9. **Program Dues, Budget, Costs, and Payments**

a. **Dues**

- 1) For State Fiscal Year, FY18, July 2017-June 2018, the annual dues for each of the undersigned MS4 Permittees shall be \$5,500.

- 2) For the following fiscal years, the annual dues shall be set by a two-thirds majority by October 15th of the preceding calendar year. In the absence of agreement, the dues shall remain at \$5,500.
- 3) The CCRPC shall invoice each MS4 Permittee on or about July 1st of each year with payment to the CCRPC due 30 days later.
- 4) All Members shall pay equal dues.

b. Program Budget

- 1) The annual Program Budget shall consist of the sum of the annual payments for each Program Year made by MS4 Permittees, plus any funds from other sources made available to the Program by majority vote of the Steering Committee.
- 2) Prior to the start of each Program Year, the Steering Committee shall adopt a Program Budget governing expenditures for the subsequent Program Year. Budget categories shall include, but not be limited to: CCRPC Duties, Contractual Services, and Expenses.
- 3) Once the Program Year starts, a majority of the Steering Committee may amend the Program Budget as needed, for example to reflect any surplus or deficits from the prior Program Year, receipt of new sources of funds, or a desired change in the Program Budget, subject to Section 8.a, above.
- 4) In the event that costs are less than anticipated or that grants or other funding sources become available, a majority of the voting Members of the Steering Committee may decide to reduce each Member's payment by an equal amount or to credit all or part of the following Program Year assessment to each MS4 Permittee.

c. **Maximum Annual Costs and Payments** – Except as otherwise provided by this section, each MS4 Permittee shall within 30 days of receipt of an invoice make a single annual dues payment, as provided by Section 8.a, above.

d. **Other Funds** – Any funds made available to the Program shall be dedicated to reducing the annual costs of each MS4 Permittee participating in the Program, except as a majority of the voting Members of the Steering Committee may decide.

e. **Excess Funds** – Any funds remaining at the end of a Program Year shall be carried over to the next Program Year, unless a majority of the voting Members of the Steering Committee decides otherwise.

f. **Non-appropriation** – The obligations of each MS4 Permittee to make payments under this Agreement shall constitute a current expense of the MS4 Permittee and shall not in any way be construed to be a debt of the MS4 Permittee in contravention of any applicable constitutional or statutory limitation or requirement, or the MS4 Permittee's charter or articles of incorporation; nor shall anything contained in this Agreement constitute a pledge of the credit or tax revenues, funds, or monies of the MS4 Permittee. The decision whether or not to budget and appropriate funds during each fiscal year of the MS4 Permittee is within the discretion of the governing body

of the MS4 Permittee. The obligations of a MS4 Permittee under the Agreement are subject to annual appropriations by the governing body of the MS4 Permittee, except as provided by Section 12 of this Agreement. An MS4 Permittee cannot choose to not appropriate funds and then withdraw in a manner that shifts prior contractual obligations on to the others. Non-appropriation will be considered withdrawal and must be prospective in fairness to all signatories as per Section 13.

10. **Contract Approval** – All CCRPC contracts shall be conditioned upon approval by a majority of the voting Members of the Steering Committee and shall be consistent with Section 6, above.
11. **Termination of CCRPC** – The CCRPC on its own or the Steering Committee by a majority vote of its full Membership may elect to terminate the CCRPC’s future participation in this Agreement by providing 90 days’ written notice to the other. In the event of termination under this section, the CCRPC shall continue to administer and comply with each existing contract, and the MS4 Permittees shall continue to reimburse the CCRPC from the Program Budget for the actual costs of administering and complying with each contract, as provided by this Agreement, unless and until the CCRPC assigns the contract pursuant to Sections 5.a.8 and 6.c of this Agreement.

12. **Termination of Agreement**

- a. This Agreement shall become null and void with no further obligation of the parties if:
 - 1) Two-thirds of the Members of the Steering Committee vote to end participation, or
 - 2) DEC determines that the Program outlined in this Agreement does not meet the relevant requirements for Minimum Control Measure One (Public Education and Outreach) or Minimum Control Measure Two (Public Involvement and Participation), and the parties to this Agreement are unable to craft a Program to satisfy DEC.
 - b. In the event of termination, any funds remaining in the Program Budget (after payment of obligations to vendors or to satisfy debts) shall be reimbursed to the MS4 Permittees with each MS4 Permittee receiving a share proportional to the number of MS4 Permittees at the time of termination. For example, if there are twelve MS4 Permittees at the time of termination, each MS4 Permittee shall receive a 1/12th share.
13. **Withdrawal of Member** – An MS4 Permittee may withdrawal from participation in this Agreement only at the end of a state fiscal year. If an MS4 Permittee wishes to withdrawal from participation, it shall provide at least 90 days’ notice to the other MS4 Permittees and the CCRPC. After withdrawal, a MS4 Permittee shall remain responsible for its share of the costs of contracts that the Steering Committee approved prior to the effective date of the withdrawal.

- 14. **Effective Date and Duration of Agreement** – The effective date of this Agreement shall be July 1, 2017, and this Agreement shall terminate June 30, 2022.
- 15. **Amendment** – This Agreement may be amended only upon unanimous action of all the Members.
- 16. **Counterparts** – This Agreement may be executed in multiple counterparts, each of which is deemed an original and all of which constitute one and the same document. Each such counterpart may be a facsimile or PDF copy, and such facsimile or PDF copy shall be deemed an original.
- 17. **Public Records** – Any and all records submitted to the CCRPC or MS4 Permittees - including Bids, Proposals, Qualifications, Contracts, etc.-- whether electronic, paper, or otherwise recorded, are subject to the Vermont Public Records Act.

Signature of CCRPC



 Christopher D. Roy, Board Chair, Chittenden County Regional Planning Commission Date 5/24/18

Signatures of Members

Name	Title	The Burlington International Airport	Date
Name	Title	The City of Burlington	Date
Name	Title	The Town of Colchester	Date
Name	Title	The Town of Essex	Date
Name	Title	The Village of Essex Junction	Date
Name	Title	The Town of Milton	Date

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Signature of CCRPC

 Christopher D. Roy, Board Chair, Chittenden County Regional Planning Commission Date _____

Signatures of Members

 Director of Aviation 3-28-18

 Name Title The Burlington International Airport Date

 Name Title The City of Burlington Date

 Name Title The Town of Colchester Date

 Name Title The Town of Essex Date

 Name Title The Village of Essex Junction Date

 Name Title The Town of Milton Date

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Signature of CCRPC

 Christopher D. Roy, Board Chair, Chittenden County Regional Planning Commission Date _____

Signatures of Members

 Name Title The Burlington International Airport Date _____

S. Chapin Spencer - Director

 Name Title The City of Burlington Date 4/9/18

 Name Title The Town of Colchester Date _____

 Name Title The Town of Essex Date _____

 Name Title The Village of Essex Junction Date _____

 Name Title The Town of Milton Date _____

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Signature of CCRPC

 Christopher D. Roy, Board Chair, Chittenden County Regional Planning Commission Date _____

Signatures of Members

 Name Title The Burlington International Airport Date _____

 Name Title The City of Burlington Date _____

Salva H. Janicis Town Manager Town of Colchester *3/27/18*
 Name Title The Town of Colchester Date _____

 Name Title The Town of Essex Date _____

 Name Title The Village of Essex Junction Date _____

 Name Title The Town of Milton Date _____

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Signature of CCRPC


Christopher D. Roy, Board Chair, Chittenden County Regional Planning Commission _____
Date

Signatures of Members

Name Title The Burlington International Airport _____
Date

Name Title The City of Burlington _____
Date

Name Title The Town of Colchester _____
Date

 _____
Name Title *Public Works Director* _____
The Town of Essex Date *4-11-18*

Name Title The Village of Essex Junction _____
Date

Name Title The Town of Milton _____
Date

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Signature of CCRPC

Christopher D. Roy, Board Chair, Chittenden County Regional Planning Commission _____ Date

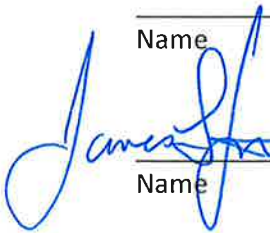
Signatures of Members

Name _____ Title The Burlington International Airport _____ Date

Name _____ Title _____ The City of Burlington _____ Date

Name _____ Title _____ The Town of Colchester _____ Date

Name _____ Title _____ The Town of Essex _____ Date


Name _____ Title Water Quality Syst _____ Date 4/13/2018
Name _____ Title _____ The Village of Essex Junction _____ Date

Name _____ Title _____ The Town of Milton _____ Date

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Signature of CCRPC

Christopher D. Roy, Board Chair, Chittenden County Regional Planning Commission Date _____

Signatures of Members

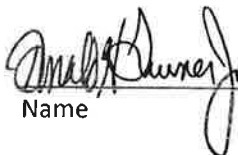
Name Title The Burlington International Airport Date _____

Name Title The City of Burlington Date _____

Name Title The Town of Colchester Date _____

Name Title The Town of Essex Date _____

Name Title The Village of Essex Junction Date _____

 _____
Name Title Town Manager Date 5/8/18

Name Title The Town of Milton Date _____



Joe Colangelo Town Manager The Town of Shelburne

6-March-2018

Date

Name Title The City of South Burlington

Date

Name Title Vermont Agency of Transportation

Date

Name Title The University of Vermont

Date

Name Title The Town of Williston

Date

Name Title The City of Winooski

Date

Name Title The Town of Shelburne Date

Helen Pierce Chair

4/2/18

Name Title The City of South Burlington

Name Title Vermont Agency of Transportation

Date

Name Title The University of Vermont

Date

Name Title The Town of Williston

Date

Name Title The City of Winooski

Date

Name	Title	The Town of Shelburne	Date
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Name	Title	The City of South Burlington	Date
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Joe Flynn		e-Signed by Joe Flynn on 2018-04-02 12:47:56 GMT	April 02, 2018
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Name	Title	Vermont Agency of Transportation	Date
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Name	Title	The University of Vermont	Date
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Name	Title	The Town of Williston	Date
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Name	Title	The City of Winooski	Date
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Name Title The Town of Shelburne Date

Name Title The City of South Burlington Date

Name Title Vermont Agency of Transportation Date

Linda Seavey
Linda Seavey, Director, Campus Planning Services The University of Vermont
3/28/2018
Date

Name Title The Town of Williston Date

Name Title The City of Winooski Date

Name Title The Town of Shelburne Date

Name Title The City of South Burlington Date

Name Title Vermont Agency of Transportation Date

Name Title The University of Vermont Date

Richard McGuire Town Manager *[Signature]* 3/21/18
Name Title The Town of Williston Date

Name Title The City of Winooski Date

Name Title The Town of Shelburne Date

Name Title The City of South Burlington Date

Name Title Vermont Agency of Transportation Date

Name Title The University of Vermont Date

Name Title The Town of Williston Date

Jessie Baker City Manager 3/23/18
Jessie Baker - City Manager The City of Winooski Date

MEMORANDUM OF AGREEMENT BETWEEN THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND THE LISTED MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) COMMUNITIES

This Memorandum of Agreement sets forth the agreement between the parties, Vermont Department of Environmental Conservation (DEC) and the following Municipal Separate Storm Sewer System (MS4) Permittees: Burlington International Airport (BTV), City of Burlington (Burlington), Town of Colchester (Colchester), Village of Essex Junction (Essex Junction), Town of Essex (Essex), Town of Shelburne (Shelburne), City of South Burlington (South Burlington), City of Saint Albans (St. Albans City), Town of Saint Albans (St. Albans Town), University of Vermont (UVM), Vermont Agency of Transportation (VTrans), Town of Williston (Williston), and City of Winooski (Winooski) (collectively referred to as “the Parties”), for the purpose of participating in the Ecosystem Restoration and Water Quality Improvement Special Fund to perform the monitoring and other data collection required under the MS4 permitting program.

I. PROJECT PURPOSE:

The purpose of this Agreement, per Act 171 (H.650), Titled: Conservation and land development; stormwater; municipal separate storm sewer systems, is to aid participating MS4 Permittees in obtaining compliance with the flow monitoring requirements of their MS4 permits.

II. SCOPE OF WORK:

The parties agree to the following:

DEC will develop and manage a contract with a third party to carry out flow monitoring requirements as outlined in the existing MS4 permits. Upon signature of this Agreement, DEC will work with the undersigned MS4 Permittees and the contractor to ensure the flow monitoring requirements are met. As long as the MS4 Permittee contributes to the Water Quality Improvement Special Fund as outlined in Section V, they will be considered in compliance with the flow monitoring requirement of the MS4 permit. All management of the Contractor and non-compliance due to the Contractor will be the responsibility of DEC and will not result in any violations under the MS4 permit for any MS4 Permittee signed onto this MOU. DEC will provide the deliverables as outlined in section VIII.

The Parties will provide data on existing flow monitoring gauge sites, precipitation gauge sites, and other information considered to be necessary for the Contractor to complete the work. The Parties will provide funds, as agreed to in Section V, in order to initiate the flow monitoring. Failure to provide the funds as specified will be considered as non-compliance

with this Agreement and the Party will be responsible for maintaining compliance with the MS4 flow monitoring requirements through other means.

III. PROJECT BENEFITS

This project will help to assess the effectiveness of flow restoration plans for up to eleven stormwater impaired streams. Vermont’s stormwater Total Maximum Daily Loads (TMDL) utilize flow targets to represent a range of stressors to water quality, from pollutant loads, land based and instream erosion, to increased flooding. Implementation of the flow restoration may take over fifteen years in some watersheds. Flow monitoring will be used by DEC and the Parties to ensure that the management practices implemented under the flow restoration plans are making progress towards the TMDL targets, and redirect efforts if needed.

IV. ENTITY ELIGIBILITY

The entities eligible to participate under the memorandum of understanding include any entity that is subject to the Vermont Municipal Separate Storm Sewer System (MS4) General Permit, signed on December 12, 2012. This includes the following MS4 Permittees: Burlington, Colchester, Essex, Essex Junction, Milton, Rutland Town, Rutland City, St. Albans City, St. Albans Town, Shelburne, South Burlington, Williston, Winooski, UVM, BTV, and VTrans.

V. FINANCIAL CONTRIBUTIONS

As developed by the eligible entities, all participating MS4 communities will divide the costs of the contracted work and pay DEC according to the table below.

MS4 Permittee	% of Total Cost	Costs by State Fiscal Years (July 1 – June 30)				
		2017	2018	2019	2020	2021
BTV	2.1%	\$3,623	\$2,805	\$2,796	\$2,087	\$2,140
Burlington	7.4%	\$12,782	\$9,898	\$9,866	\$7,364	\$7,549
Colchester	5.3%	\$9,232	\$7,149	\$7,126	\$5,319	\$5,452
Essex Junction	6.1%	\$10,625	\$8,228	\$8,201	\$6,122	\$6,275
Essex	6.0%	\$10,473	\$8,111	\$8,084	\$6,034	\$6,185
Shelburne	7.0%	\$12,185	\$9,436	\$9,405	\$7,021	\$7,196
South Burlington	17.4%	\$30,170	\$23,363	\$23,287	\$17,383	\$17,818
St. Albans City	6.6%	\$11,418	\$8,842	\$8,813	\$6,579	\$6,743
St. Albans Town	7.1%	\$12,287	\$9,515	\$9,483	\$7,079	\$7,256
UVM	5.5%	\$9,564	\$7,407	\$7,382	\$5,510	\$5,648
VTrans	16.6%	\$28,794	\$22,298	\$22,225	\$16,590	\$17,005
Williston	6.2%	\$10,668	\$8,261	\$8,234	\$6,146	\$6,300
Winooski	6.6%	\$11,363	\$8,799	\$8,770	\$6,547	\$6,711

		Costs by State Fiscal Years (July 1 – June 30)				
MS4 Permittee	% of Total Cost	2017	2018	2019	2020	2021
Total	100.0%	\$173,184	\$134,112	\$133,672	\$99,781	\$102,278

Each participating MS4 Permittee to this agreement is required to submit the payment listed above on or before May 1 each year in order to be considered in compliance with the terms of the agreement for that year. Payments shall be made directly to DEC. If payment is not received in time, monitoring services as provided by the Contractor to the State will be discontinued.

Actual costs are dependent on the finalization of the Contract with the selected Contractor. Fiscal year 2020 and 2021 are anticipated costs based on renewal of the Contract for monitoring services with the selected Contractor.

VI. PROJECT CONTACTS

Parties Contacts

See Attachment A

DEC Contact

David Pasco

Admin. and Innovation Division

802-490-6112

david.pasco@vermont.gov

VII. EFFECTIVE DATE; MODIFICATION

This Memorandum of Agreement shall be effective from the date of execution and shall terminate on June 30, 2021. This Memorandum of Agreement may be amended or modified at any time by mutual written agreement of all Parties.

This agreement will provide monitoring services for the participating MS4 Permittees from State Fiscal Year 2017 (July 1, 2016) through State Fiscal Year 2021 (June 30, 2021).

VIII. DELIVERABLES

Each of the Parties will provide the following deliverables to DEC:

1. Data on existing flow monitoring gauge sites, precipitation gauge sites, and other information considered to be necessary for the Contractor to complete the work, as requested.
2. Notification of any changes in the MS4 Communities' participation in this agreement as early as practicable.
3. Payment of funds as outlined in Section V.

DEC will provide the following deliverables to all participating entities:

1. A comprehensive report outlining Quality Assurance/Quality Control protocols, shall be submitted to all participating entities prior to the initiation of monitoring.
2. Mean daily discharge in cubic feet per second at each site for each day of the monitoring period calculated from measurements taken at five minute intervals.
3. A platform for continuous remote access to streamflow gaging station data (i.e., satellite, radio, or cellular telemetry) complete with real-time data loss notification systems.
4. Mean daily depth of precipitation in inches (to the nearest 0.01 inch) at each site for each day of the monitoring period, calculated from measurements taken at five minute intervals and form of precipitation identified (rain vs. snow).
5. An annual report on each impaired stream with the flow duration curve and calculated flow metrics, and a brief narrative describing the preceding field season, gage configuration, and how data was collected and compiled.
6. On an annual basis, compiled sub-daily data, with field notes available upon request.

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

**BURLINGTON INTERNATIONAL
AIRPORT**

By:

Title: _____

Burlington International Airport

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

CITY OF BURLINGTON

By:

Title: _____

City of Burlington

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

TOWN OF COLCHESTER

By:

Title: _____

Town of Colchester

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

VILLAGE OF ESSEX JUNCTION

By:

Title: _____

Village of Essex Junction

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

TOWN OF ESSEX

By:

Title: _____

Town of Essex

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

TOWN OF SHELBURNE

By:

Title: _____

Town of Shelburne

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

CITY OF SOUTH BURLINGTON

By:

Title: _____

City of South Burlington

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

CITY OF ST. ALBANS

By:

Title: _____

City of St. Albans

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

TOWN OF ST. ALBANS

By:

Title: _____

Town of St. Albans

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

UNIVERSITY OF VERMONT

By:

Title: _____

University of Vermont

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

**VERMONT AGENCY OF
TRANSPORTATION**

By:

Title: _____

Vermont Agency of Transportation

Date: _____

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

TOWN OF WILLISTON

By:

Richard W. Davis

Title: Town Manager

Town of Williston

Date: February 22, 2016

WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By:

Commissioner

Dept of Environmental Conservation

Date: _____

THE PARTICIPATING PARTIES:

CITY OF WINOOSKI

By:

Title: _____

City of Winooski

Date: _____

Attachment A

Project Contacts

Parties Contacts

Burlington International Airport

Amanda Hanaway-Corrente, Director of
Environmental Compliance
802-863-2874
ahanaway@btv.aero

City of Burlington

Megan Moir, Stormwater Program
Manager
802-540-1748
mmoir@burlingtonvt.gov

Town of Colchester

Bryan Osborne, Public Works Director
802-264-5625
bosborne@cochestervt.gov

Village of Essex Junction

Jim Jutras, Public Works
802-878-6943
jim@essexjunction.org

Town of Essex

Dennis Lutz, Public Works Director
802-878-1344
dennis@essex.org

City of South Burlington

Tom DiPietro, Public Works Deputy
802-658-7961
tdipietro@sburl.com

Town of Shelburne

Chris Robinson, Water Quality
Superintendent
802-985-3700
crobinson@shelburnevt.org

City of St. Albans

Chip Sawyer, Planner
802-524-1500
c.sawyer@stalbansvt.com

Town of St. Albans

Nathaniel Neider, Planner
802-524-7589
satplanner@comcast.net

University of Vermont

Linda Seavey, Planning Director
802-656-0215
Linda.seavey@uvm.edu

Vermont Agency of Transportation

Craig DiGiammarino, Manager
802-922-4681
Craig.digiammarino@vermont.gov

Town of Williston

James Sherrard, Stormwater
Coordinator
802-878-1239
jsherrard@willistonvt.org

City of Winooski

John Choate, Utility Manager
802-655-6421
jchoate@winooskivt.org