



**Municipal Separate Storm Sewer System (MS4)
2020 Annual Report**

A. Permittee Information

1. Name of MS4: City of South Burlington

2. Permit Number: 7027 - 9014.A1RA1A1

B. Attached Documents

The following documents have been prepared and submitted with this Annual Report:



Annual Report Workbook (.xlsx)



BMP Tracking Table (.xlsx)

C. Certification of STPs constructed to comply with the FRP or PCP

The following BMPs were built or implemented within the past calendar year and were constructed in compliance with the approved Flow Restoration Plan (FRP) or Phosphorus Control Plan (PCP).

Name of System	Location
Market Street East Pond	44.463062 -73.173828
Market Street West Pond	44.463416 -73.174615

Peter Smiar

Director of Land Development, VHB

Name of Qualified Designer

Title

Smiar, Peter

Digitally signed by Smiar, Peter
DN: CN="Smiar, Peter"
Date: 2021.03.30 13:24:35-04'00'

3/30/2021

Signature

Date

D. MS4 Operator 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.

Tom Hubbard

Deputy City Manager

Print Name

Title

Signature

03-30-2021

Date

**Appendix A –
Chittenden County Regional Stormwater Education Program
Annual Review: 2020 Program Year Summary**

Minimum Control Measure #1:

Public Education & Outreach

REGIONAL STORMWATER EDUCATION PROGRAM
RETHINK RUNOFF

JANUARY–DECEMBER 2020
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 its 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.

Pluck has been responsible for the creative, administration, and management of Rethink Runoff since late 2017.

This 2020 calendar year report recaps the work done primarily related to Minimum Control Measure #1.

2020 Initiatives

In January, we continued our year-round approach to advertising by introducing a small winter-based campaign on reducing salt use, to run alongside our winter pet waste ads.

We re-organized the Rethink Runoff site, updating the theme and adjusting messaging throughout.

In Spring 2020, we introduced an additional advertising push focusing on conservation and environmental impacts of stormwater runoff by featuring animals within the Lake Champlain ecosystem: one bird, one amphibian and one fish.

A new campaign, Ms. Drop's Tip of the Month was initiated. We create a :30 second animation that could be updated each month with a tip for reducing stormwater runoff. Animations were posted to social media channels (FB and Instagram) and promoted each month to a target audience within MS-4 locations.

In addition, we used the same creative for an additional set of ads, to work as a general awareness ad set for Rethink Runoff. As part of that, we introduced a test HTML5 ad (one size) to gauge effectiveness. Overall the change in metrics was minimal when looking at engagement.

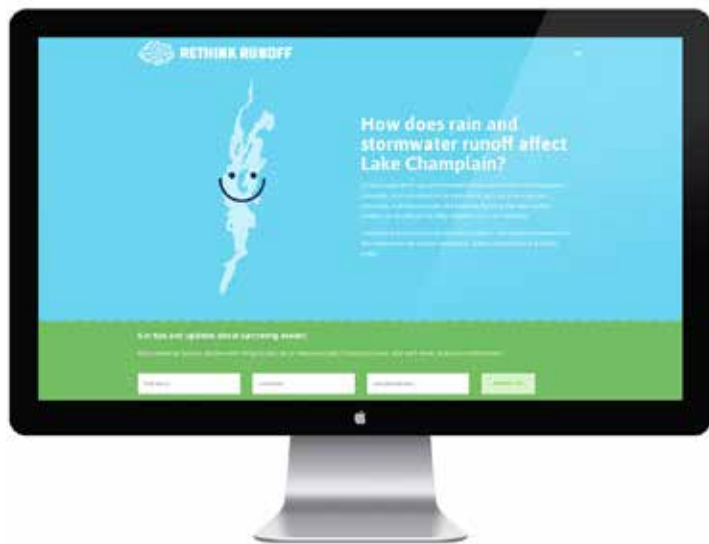
We updated the rack cards for Stream Team outreach from a creative and messaging standpoint to tie it with the messaging on the website.

When COVID prevented in-person workshops for Stream Team, we created a digital template for Google Sheets for Kristen Balschunat to use for digital/virtual events.

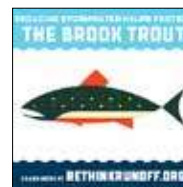
We introduced tracking onto the websites for conversions (or actions our visitors take while visiting the website). Our first conversion to be tracked is for a downloadable pdf with instructions on How to Build a Rain Barrel. These events often book to capacity and are also restricted by city or town, so including a downloadable pdf on the site allows us to determine to measure interest in visitors doing DIY stormwater-related projects.

2020 Creative

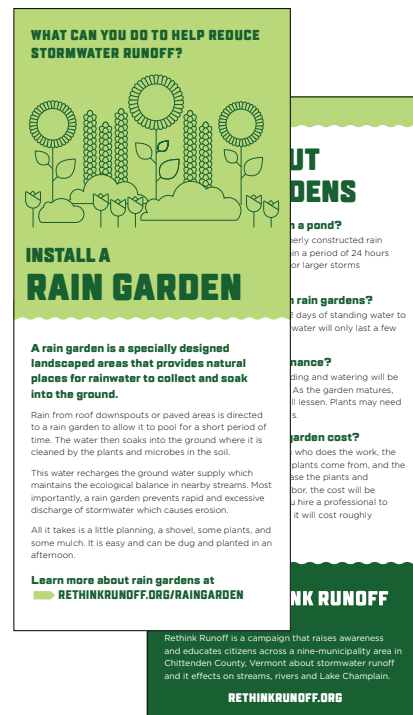
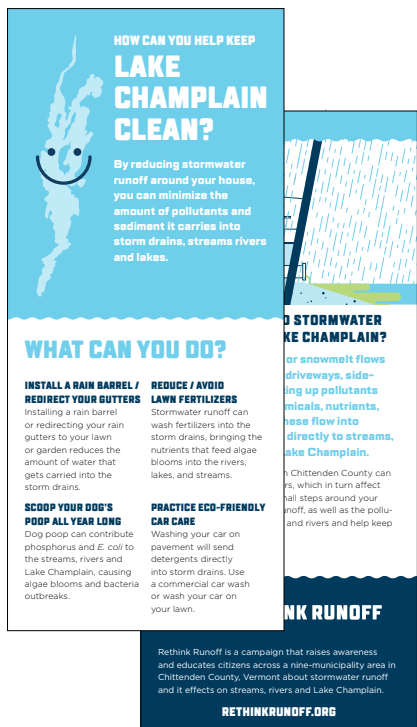
UPDATED WEBSITE



ECO-BASED CAMPAIGN - SAMPLE ADS



REVISED RACK CARDS



2020 Creative

TIP OF THE MONTH ANIMATION



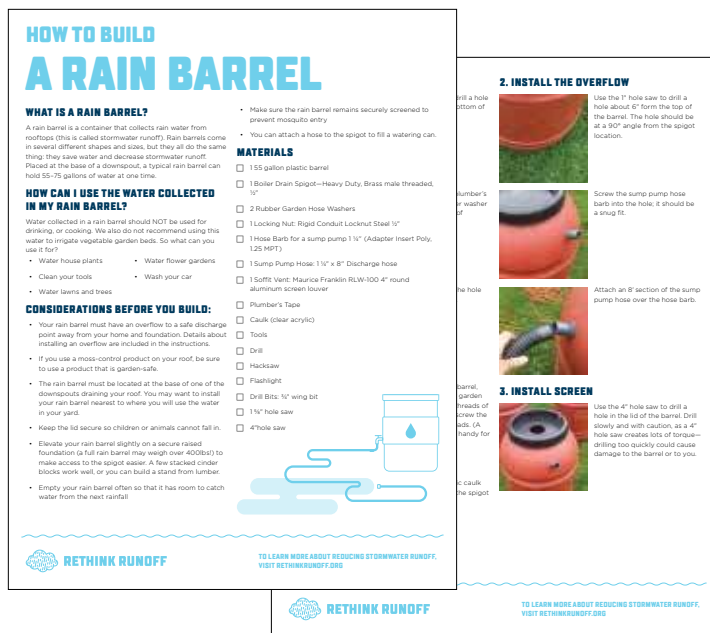
Sample animation:

<https://www.facebook.com/131159566895612/videos/955827985225631>

GOOGLE SHEETS WEBINAR TEMPLATE



RAIN BARREL PDF



Media Buy Breakdown

Below is a cost breakdown of media buys, compared with previous years. We continued our Winter Campaign with a focus on both pet waste and reducing salt use. Similar to our past efforts to shift outreach year-round, our Winter Campaign ran in January and February, traditionally a quieter time from an advertising standpoint.

In addition, our Facebook animated posts were boosted each month (starting in May), providing a secondary touchpoint for year-round advertising.

For 2017 and 2018, Summer was initially planned as part of the spring 2018 budget. However, since 2019, the spring media buy includes all purchases made through 6/30. The Summer media buy will include any media buys made from 7/1 to 9/1, and Fall media will span from 9/1–11/1. We typically do not run in December, except for our monthly Facebook ad boost.

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	\$3,394	\$7,534	\$2,987
TV	\$3,710	-	\$2,472
PRINT	\$1,755	-	\$1,006
TOTAL	\$11,534	\$7,534	\$7,509

2019 – MEDIA BUY				
SOURCE	WINTER	SPRING	SUMMER* 5/27–09/2	FALL
RADIO	\$360	\$1,008		\$1,025
DIGITAL	\$1,800	\$2,320	\$5,830	\$3,000
TV		\$5,830		\$3,306
PRINT	\$503	\$2,012		\$1,006
TOTAL	\$2,663	\$11,170	\$5,830	\$7,509

2020 – MEDIA BUY				
SOURCE	WINTER	SPRING	SUMMER 7/1–9/1	FALL
RADIO		\$375		\$375
DIGITAL	\$1,800	\$4,557.51	\$400	\$3,430.33
TV		\$5,788.75		\$2,063.83
PRINT		\$1,579.50		\$1,053
TOTAL	\$1,800	\$12,301	\$400	\$6,922

Digital media buys include Google Ads, Facebook Ads and WCAX.

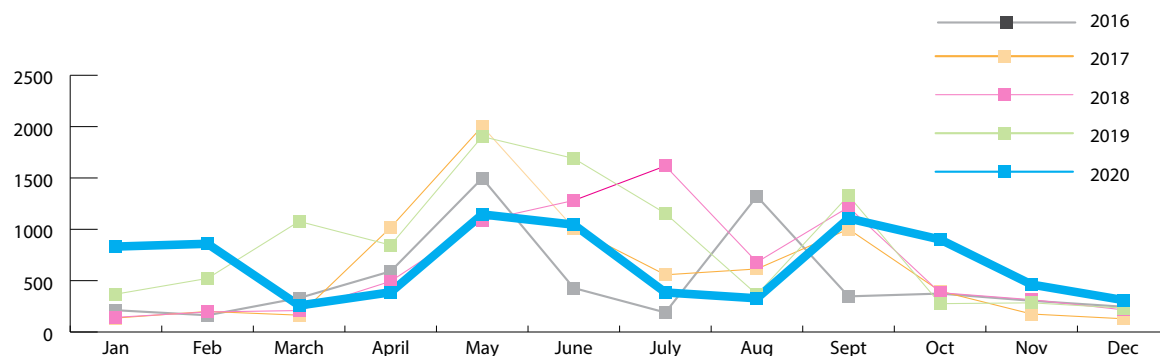
TV includes WCAX and Xfinity media buys.

Advertising Click-through Rates, 2020

SOURCE	IMPRESSIONS	ENGAGEMENT	COST	COST PER ENGAGEMENT
DISPLAY ADS	4,550,215	3,079	4329.18	\$1.40
VIDEO (YOUTUBE)	326,839	181,417	2663.48	\$0.01
WCAX DIGITAL	99,120	37	\$800	\$21.62
FACEBOOK/SOCIAL MEDIA	137,219	195 CLICKS 39,240 ENGAGEMENT	\$1,345.08	\$6.89

Website Metrics for 2016–2020

Web visits as a whole were down compared to 2019. We attribute this to COVID-19. Our digital ad spend was also down, reflecting a general downturn across the board. Fall visits and ad spends began to rise in September and October, still down from the previous year, but much less drastic than the downturn in Spring and Summer. We did also notice an uptick in desktop visits, again due to COVID-19 and more people being at home.



2020 vs. 2019 Users

-8%
7,861 vs. 8,534

New Users

-8%
7,860 vs 8,529

Pageviews

-17%
13,112 vs 15,769

Total Sessions/Visits (1/1–12/31)

TOTAL	TIME PERIOD
8,908	2020
10,111	2019
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	2020	2019	2018	2017	2016
DESKTOP	51.25	40.2%	50.1%	52.8%	65.7%
MOBILE	41.28%	44%	40.6%	36.4%	24.5%
TABLET	7.47%	15.8%	9.3%	10.8%	9.8%

Most Visited Pages

PAGE	TOTAL
HOMEPAGE	3,162
/EDUCATIONAL-RESOURCES/FOR-KIDS/CREATE-YOUR-OWN-WATER-CYCLE/	960
/EDUCATIONAL-RESOURCES/REDUCE-ROAD-SALT/INDEX.HTML	767
/EDUCATIONAL-RESOURCES/	745
/VERMONT-ENDANGERED-ANIMALS/	568
/EDUCATIONAL-RESOURCES/PICK-UP-DOG-POOP/INDEX.HTML	540
/EDUCATIONAL-RESOURCES/FOR-KIDS/WHAT-IS-A-WATERSHED/	436
/EDUCATIONAL-RESOURCES/INSTALL-A-RAIN-BARREL/	406
/THE-STREAM-TEAM/	401

Website Event Tracking

DEVICE	2020
MAILCHIMP FORM	61
RAIN BARREL PDF	8
SOIL TEST CTA	5

Top Vermont Cities and Towns

TOTAL	SESSIONS
BURLINGTON*	962
SOUTH BURLINGTON*	582
COLCHESTER*	525
ESSEX*	465
SHELBURNE*	187
STOWE*	118
MIDDLEBURY*	50
JERICHO	39
WILLISTON	37
MONTPELIER	35

MILTON: 20
WINOOSKI 13

* SAME POSITION AS LAST YEAR

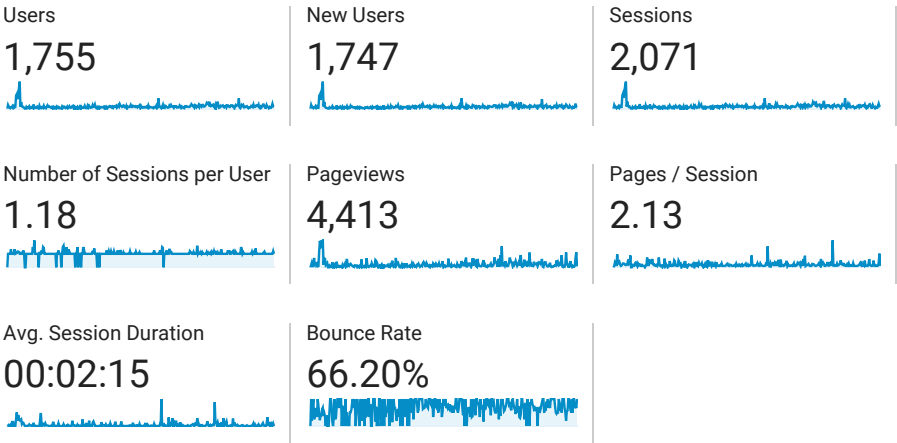
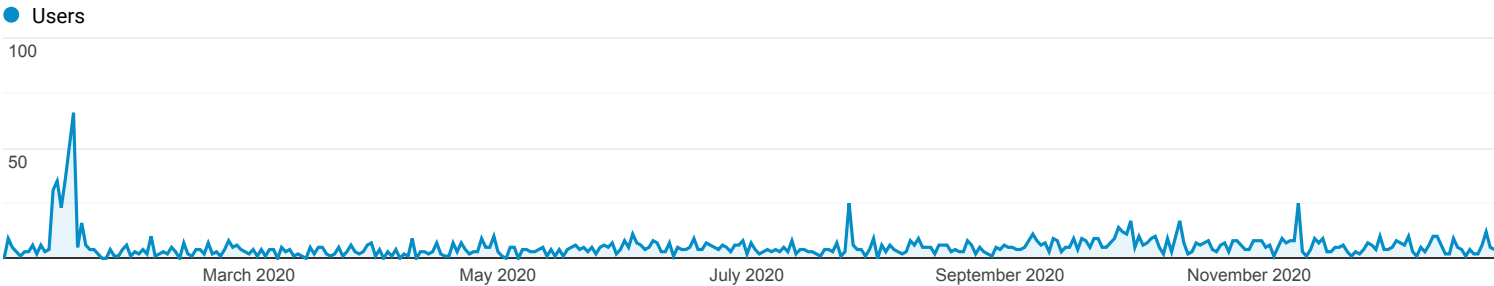
Appendix B –
Summary Data for www.sburlstormwater.com

Audience Overview

 All Users
100.00% Users

Jan 1, 2020 - Dec 31, 2020

Overview



Language		Users	% Users
1. en-us		1,328	75.67%
2. en		125	7.12%
3. en-gb		84	4.79%
4. c		35	1.99%
5. zh-cn		26	1.48%
6. de		23	1.31%
7. de-de		17	0.97%
8. es		11	0.63%
9. en-ca		9	0.51%
10. es-es		9	0.51%

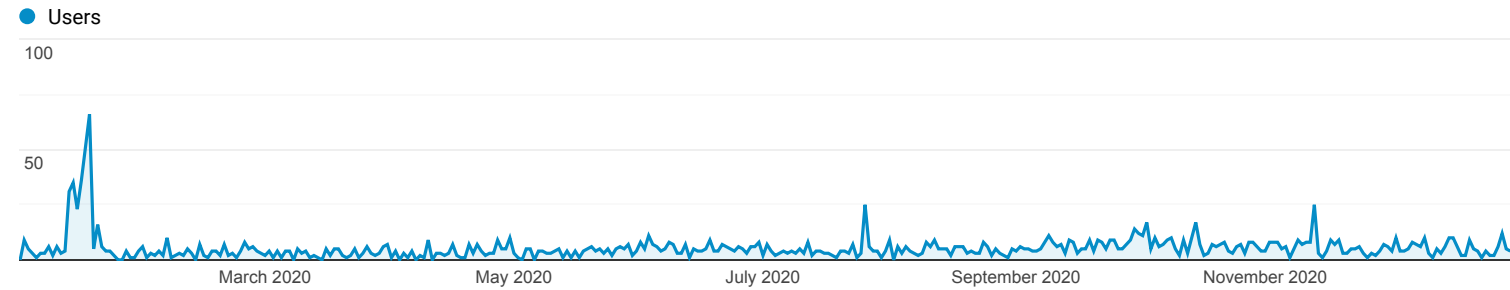
Channels

All Users
100.00% Users

Jan 1, 2020 - Dec 31, 2020

Explorer

Summary



Default Channel Grouping	Acquisition			Behavior			Conversions		
	Users	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration	Goal Conversion Rate	Goal Completions	Goal Value
	1,755 % of Total: 100.00% (1,755)	1,750 % of Total: 100.17% (1,747)	2,071 % of Total: 100.00% (2,071)	66.20% Avg for View: 66.20% (0.00%)	2.13 Avg for View: 2.13 (0.00%)	00:02:15 Avg for View: 00:02:15 (0.00%)	0.00% Avg for View: 0.00% (0.00%)	0 % of Total: 0.00% (0)	\$0.00 % of Total: 0.00% (\$0.00)
1. Organic Search	704 (39.33%)	689 (39.37%)	821 (39.64%)	70.52%	2.15	00:01:26	0.00%	0 (0.00%)	\$0.00 (0.00%)
2. Direct	605 (33.80%)	603 (34.46%)	655 (31.63%)	83.21%	1.60	00:00:39	0.00%	0 (0.00%)	\$0.00 (0.00%)
3. Referral	478 (26.70%)	455 (26.00%)	592 (28.59%)	41.39%	2.69	00:05:11	0.00%	0 (0.00%)	\$0.00 (0.00%)
4. Social	3 (0.17%)	3 (0.17%)	3 (0.14%)	66.67%	2.33	00:00:30	0.00%	0 (0.00%)	\$0.00 (0.00%)

Rows 1 - 4 of 4

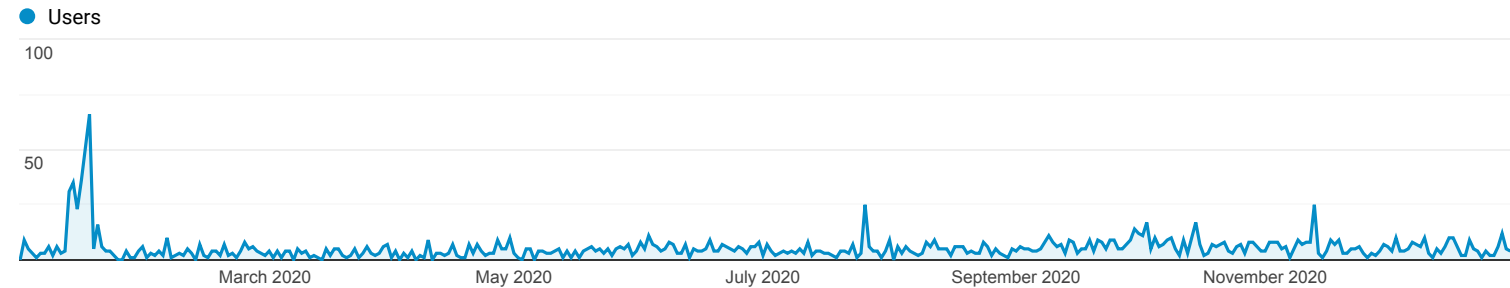
New vs Returning

All Users
100.00% Users

Jan 1, 2020 - Dec 31, 2020

Explorer


Summary



User Type	Acquisition			Behavior			Conversions		
	Users	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration	Goal Conversion Rate	Goal Completions	Goal Value
	1,755 % of Total: 100.00% (1,755)	1,750 % of Total: 100.17% (1,747)	2,071 % of Total: 100.00% (2,071)	66.20% Avg for View: 66.20% (0.00%)	2.13 Avg for View: 2.13 (0.00%)	00:02:15 Avg for View: 00:02:15 (0.00%)	0.00% Avg for View: 0.00% (0.00%)	0 % of Total: 0.00% (0)	\$0.00 % of Total: 0.00% (\$0.00)
1. New Visitor	1,744 (91.93%)	1,750 (100.00%)	1,750 (84.50%)	71.31%	1.91	00:02:08	0.00%	0 (0.00%)	\$0.00 (0.00%)
2. Returning Visitor	153 (8.07%)	0 (0.00%)	321 (15.50%)	38.32%	3.35	00:02:56	0.00%	0 (0.00%)	\$0.00 (0.00%)

Rows 1 - 2 of 2

Overview

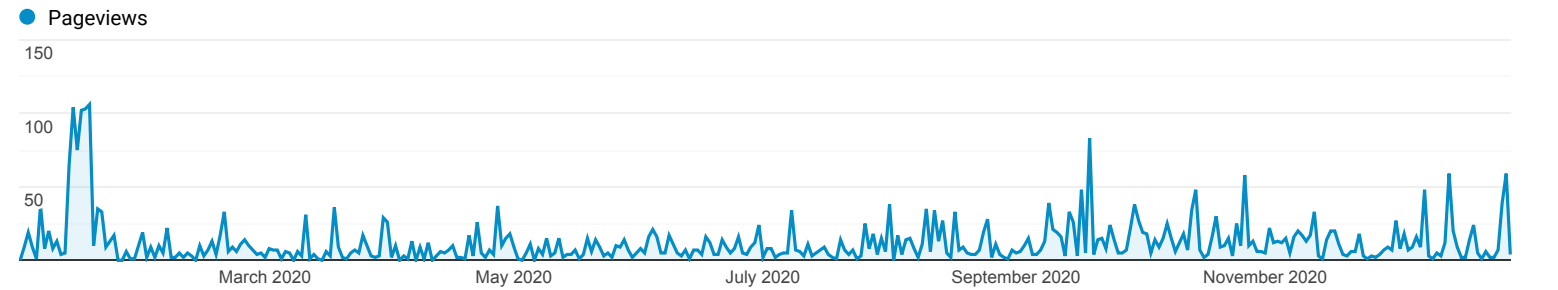


All Users

100.00% Pageviews


Jan 1, 2020 - Dec 31, 2020

Overview




Pageviews

4,413




Unique Pageviews

3,371




Avg. Time on Page

00:02:00




Bounce Rate

66.20%



% Exit

46.93%



Page	Pageviews	% Pageviews
1. /index.shtml	1,731	39.23%
2. /stormwater-projects/index.shtml	300	6.80%
3. /about-us/index.shtml	248	5.62%
4. /download-material/index.shtml	241	5.46%
5. /contact-us/index.shtml	224	5.08%
6. /public-outreach/how-do-i-safely-drain-my-swimming-pool/index.shtml	211	4.78%
7. /stormwater-resources/index.shtml	130	2.95%
8. /stormwater-projects/paint-or-oil-dumped-down-storm-drains/index.shtml	109	2.47%
9. /map/index.shtml	101	2.29%
10. /public-outreach/index.shtml	73	1.65%

Acquisition Overview

All Users
100.00% Users

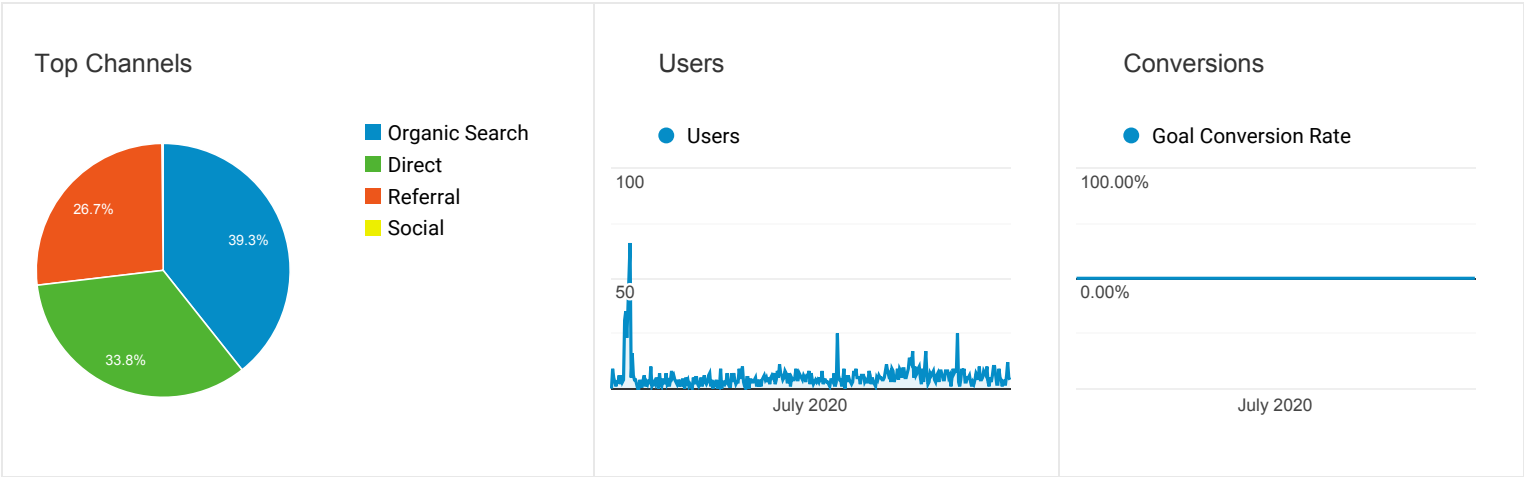
Jan 1, 2020 - Dec 31, 2020

Primary Dimension:

Conversion:

Top Channels

All Goals



		Acquisition			Behavior		
		Users	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration
		1,755	1,747	2,071	66.20%	2.13	00:02:15
1	Organic Search	704			70.52%		
2	Direct	605			83.21%		
3	Referral	478			41.39%		
4	Social	3			66.67%		

Conversions

?

?

Set up a goal.

To see outcome metrics, define one or more goals.

GET STARTED

To see all 4 Channels click [here](#).

**Appendix C –
Chittenden County Stream Team
Summary of Activities January-December 2020**

Minimum Control Measure #2: Public Involvement & Participation Rethink Runoff Stream Team

Summary of Activities



2020 Calendar Year

Overview

Although the pandemic created challenges for the Stream Team in 2020 we were still able to engage many residents in meaningful actions to improve stormwater in their community. We hosted a contactless rain barrel kit pickup and two in-person riparian tree planting events. In the digital realm, we presented online lectures, participated in remote radio and TV interviews and launched the Clean Water Challenge to inspire people to clean out their neighborhood storm drains. For the first time in the history of the program we were unable to collect water quality samples for chemical analysis due to state budget cuts, so we re-worked the program by asking volunteers to collect photographs, drawings and stories. The portfolio of presentations, handouts and new programs that were created this year will serve as a resource for member municipalities and residents for years to come.

RRST Estimated Impact by Municipality

The table below depicts the estimated number of individuals engaged in each RRST municipality in 2020. This table reflects both digital and in-person interactions where it was possible to log participants' town of residence.

Municipality	# of people reached in 2020
Burlington	17
Colchester	9
Town of Essex	31
Village of Essex Junction	10
Milton	4
Shelburne	21
Williston	13
South Burlington	16
Winooski	2
TOTAL	123

Table 1: Interaction with the Stream Team by municipality

Organizational Partnerships

The Rethink Runoff Stream Team partnered with **10** organizations in 2020:

1. **Essex Free Library:** Hosted our Watershed Explorers public program and helped create posters for advertising materials for the event.
2. **Essex Conservation & Trails Committee:** Invited us to their meeting to share about RRST program, discuss water quality data and partner on rain barrel outreach.
3. **Shelburne Natural Resources and Conservation Committee:** Invited us to join their meeting to share info about the RRST program and describe findings of Stream Team data results per request of the committee.
4. **Williston Conservation Commission** Invited us to join their meeting to share about the RRST program and describe changes homeowners can make to become more "stormwater friendly."
5. **ECHO:** Provided a digital platform for us to host a talk in a Zoom event called "Change Your Stormwater Footprint" Helped with advertising and technical issues.
6. **UVM Sea Grant:** Hosted a training about best practices for citizen science projects during the pandemic. This presentation helped us decide how to restructure the Stream Team summer volunteer program with safety in mind.
7. **Colchester Scouts:** Planned to volunteer for a catch basin painting day. Event deferred to 2021 due to concerns around covid safety.
8. **Lake Champlain Chocolates:** Donated 25 bars of chocolate to provide incentive for our Clean Water Challenge program.
9. **Winooski Valley Parks District:** Provided land and staff time to support the riparian tree planting project in Colchester.
10. **Meach Cove Farm:** Provided land and staff time to support the riparian tree planting project in Shelburne.

Outreach -----

Media Rethink Runoff Stream Team had **6** media appearances in 2020:

1. **Positively VT** Invited us to participate in a 20-minute Zoom interview for Positively VT on Channel 17. Watch it [here](#).
2. **WDEV** Invited us to participate in a 30 min Radio Interview on Vermont Viewpoint Segment Listen [here](#).
3. Posts were published on **Front Porch Forum** in Essex to advertise the Rain Barrel Kit Pickup event.
4. Posts were published on **Front Porch Forum** in South Burlington to advertise the Clean Water Challenge.
5. Posts were published on **Front Porch Forum** in Shelburne to advertise the Clean Water Challenge.
6. A press release about how individuals in South Burlington can make a difference for clean water was sent to **The Other Paper**, but was not published. The same article was shared with South Burlington Municipal staff to add to the quarterly SoBu newsletter, but printing of the publication was stopped due to covid-related budget cuts.

Social Media

Facebook

- Total Posts = 32
- 283 page "likes"
- 340 "follows"



Instagram

- Total Posts = 14
- 272 total "followers"



Figure 1: Two instagram posts from 2020

RRST Website

We maintained the "events" section of the website and occasionally helped to develop ideas for new web content in collaboration with Pluck Design including:

- How to Build a Rain Barrel PDF
- "Book A Speaker" website text
- "What is a Watershed" infographic

Newsletter

At the end of 2020 there were **770** subscribers to the RRST newsletter (an increase from 629 in 2019). Three newsletters were published this year in March, May and July.

Outreach Events

Six "outreach" events were held in 2020. A total of **37** people participated in presentations or engaged with digital initiatives. Each outreach event is described in more details below:

1. **Essex Library Event** [January] Hosted a 1-hour workshop for families titled "Clean Water Explorers." Participants looked at a map of the Champlain Valley to determine which subwatershed they live in and then constructed a watershed model using tinfoil. The watershed model was used to discuss the way pollutants travel across the landscape through runoff and was used to discuss potential solutions. 6 participants
2. **Essex Conservation & Trails Committee** [February] asked us to share about the resources and programs offered by RRST and offered to help with rain barrel workshop outreach. Reached 9 people.
3. **Shelburne Natural Resources and Conservation Committee** [February] asked us to describe the results of Stream Team data to inform their understanding of water quality

issues in the town. We also discussed general resources and programs offered by RRST. Reached 8 people.

4. **ECHO Zoom Presentation** [May] This 30 -minute presentation for all ages, titled "Change Your Stormwater Footprint" discussed 8 actions individuals can take to improve stormwater quality in their communities. Topics covered included picking up pet waste, diverting gutters to permeable surfaces and using less salt in the winter. 3 participants
5. **Williston Conservation Commission** [July] asked us to present about actions that individual homeowners can take to improve water quality. We also discussed the Rethink Runoff program goals and brainstormed ways that commission can help spread the word about programs and resources. Reached 6 people.
6. **Clean Water Challenge** [July] In an effort to engage people in hands-on stormwater projects through a digital platform, we launched the Clean Water Challenge online contest in July. Members of the public were invited to clean a storm drain in their neighborhood and submit before and after pictures to be entered into a drawing for a prize. The contest was advertised in our newsletter, Facebook, Instagram and shared on Front Porch Forum by some Stream Team volunteers. The contest was open to residents of all nine RRST municipalities. In total, 5 people participated. All 5 were awarded with Stream Team t-shirts, stickers and Lake Champlain Chocolates. (4 from S. Burlington, one from Essex Junction)



Figure 2: Participants in the Clean Water Challenge clear debris from storm drains in their neighborhood.

Projects -----

Five "project" events were held in 2020. A total of **86** people participated in hands-on events in their communities. The following projects are described in more details below:

1. Colchester Riparian Tree Planting
2. Shelburne Riparian Tree Planting
3. Rain Barrel Kit Pickup in Essex
4. Stream Team Water Quality Monitoring
5. Rain Garden Maintenance

Colchester Project: Tree Planting along the Winooski River

Summary: RRST helped to advertise and recruit volunteers for a tree planting project at Macrae Farm Park in Colchester that was planned by the Winooski NRCD and co-funded by the Lake Champlain Basin Program and Partners for Fish and Wildlife.

Advertising: Advertising was mainly achieved through email outreach to our list of existing volunteers, posting on social media and inviting community members to share a post on Front Porch Forum.

Challenges: Completing the event in a covid-safe manner was the biggest challenge. We required each participant to sign a volunteer waiver that included a covid checklist. Participants were asked to wear masks and maintain social distance. Many participants shared a feeling of gratitude to be able to complete hands-on work to improve their community even amidst a pandemic. A secondary challenge was weather. We postponed the original planting day due to predicted thunderstorms, but were able to maintain enough volunteers for a successful event on the rain date.

Impact: 10 Volunteers participated in two shifts throughout the day. 450 trees were planted at this site. These trees will help to decrease erosion, improve water quality and provide wildlife habitat for years to come. We have recruited a community volunteer to check in on the trees throughout 2021 which should help to ensure greater survival rates. Furthermore, the social impact of engaging people in a meaningful and safe in-person event amidst a pandemic cannot be overestimated. Building a sense of community around watershed conservation gave volunteers joy and a sense of purpose. Most participants accepted a Stream Team t-shirt and sticker as thanks for assisting. Finally, about 50 people opted to join our email list after expressing interest in the tree planting. We hope to engage folks who were not able to attend the planting, but chose to connect to our newsletter in activities in 2021.



Figure 3: Volunteers plant saplings along the Winooski River at the Colchester tree planting

Shelburne Project: Tree Planting along McCabe's Brook

Summary: RRST helped advertise and recruit volunteers for a tree planting project at Meach Cove Farm Park along McCabe's Brook in Shelburne that was planned by the Winooski NRC and co-funded by the PUR Project and Partners for Fish and Wildlife.

Advertising: Advertising was mainly achieved through email outreach to our list of existing volunteers, posting on social media and inviting community members to share a post on Front Porch Forum. Staff at Meach Cove Farm also helped to recruit community members through a variety of local connections.

Challenges: Similarly to the Colchester tree planting, completing the event in a covid-safe manner was the biggest challenge. We required each participant to sign a volunteer waiver that included a covid checklist. Participants were asked to maintain social distance. Again, many participants shared a feeling of gratitude to be able to complete hands-on work to improve their community even amidst a pandemic. At this site a secondary challenge was also weather. We postponed the original planting day due to predicted rainstorms, but were able to maintain enough volunteers for a successful event on the rain date.

Impact: 16 Volunteers participated in two shifts throughout the day. 250 trees were planted at this site. These trees will help to decrease erosion, improve water quality and provide wildlife habitat for years to come. Finally, about 30 people opted to join our email list after expressing interest in the tree planting. We hope to engage folks who were not able to attend the planting, but chose to connect to our newsletter in activities in 2021.



Figure 4: Volunteers of all ages plant saplings along McCabe's Brook at the Shelburne tree planting event.

Town of Essex Project: Rain Barrel Kit Pickup

Summary: We hosted a rain barrel kit pickup event in the Town of Essex that was covid-compliant and enabled us to share rain barrel supplies with 39 residents of RRST municipalities. We created a new instructional PDF and video about rain barrel construction.

Challenges: When our original plans of hosting an in-person rain barrel workshop in April came to a halt due to covid restrictions we decided to pivot and host a contactless rain barrel kit pickup day instead. We washed the barrels, pre-drilled holes and created hardware kits so that participants could assemble their barrels at home without specialized tools. On August 15th, we set up a tent at the Essex Fire Department and distributed kits to 39 people.

Advertising: This event was advertised on the RRST website, newsletter and social media pages. Municipal staff and members of the Essex Conservation and Trails Committee also helped to spread the message on Front Porch Forum.

Impact: Once the rain barrels are installed, they will help to decrease stormwater runoff volume in member municipalities. All participants were given educational handouts about the Stream Team and many elected to join our newsletter mailing list. Additionally, we produced an informational [VIDEO](#) about how to build a rain barrel and worked with Pluck Design to create a [PDF](#) handout about how to build a rain barrel. Both the video and PDF will serve as excellent resources to share with residents in the years to come.

Cost: The cost of materials was fully covered by the registration fee (\$40), so the only expense for this program was staff time.



Figure 5: Left to right: Hardware kits with Rethink Runoff handouts ready to be distributed, rain barrels with pre-drilled holes wait to be picked up by participants, Kristen masked and ready for a covid-safe distribution day

Water Quality Monitoring

RRST has maintained an ongoing water quality monitoring program since 2012. Historically, citizen science volunteers have collected water samples in urban or suburban streams that are impacted by sedimentation, excessive nutrient loading, high temperatures, bacteria, and other pollution. This data provides information to towns about long term trends and may help towns identify good locations for stormwater BMPs.

In 2020 the program was forced to adapt since funding from VT DEC's LaRosa program was unavailable due to COVID-19 related budget cuts. Instead of collecting water samples for chemical analysis, volunteers were recruited to collect pictures and stories of our urban streams.

The RRST coordinator sent seven weekly emails to Stream Storytelling volunteers to share prompts for reflection. The weekly prompts included:

1. Get to Know Your Stream
2. Macroinvertebrates
3. Bird Identification
4. Using iNaturalist to record species diversity
5. Nature Journaling
6. Soil Analysis
7. Opportunities for Action



Figure 6: Stream Team volunteer story submissions including (left to right) macroinvertebrate monitoring, iNaturalist observations, baby snapping turtle in Alder Brook, nature journaling

In total, this program collected about 50 stories, 65 pictures and 15 illustrations. The findings have been compiled and posted in a Google Earth Tour, which can be accessed at the link below. It will be posted on the Rethink Runoff website shortly.

<https://earth.google.com/web/data=MicKJQojCiExMmcyVUVyZTNpVFhvN2ptcExKMS1PeElwUVdxZDVlb3M6AwoBMA?authuser=0>

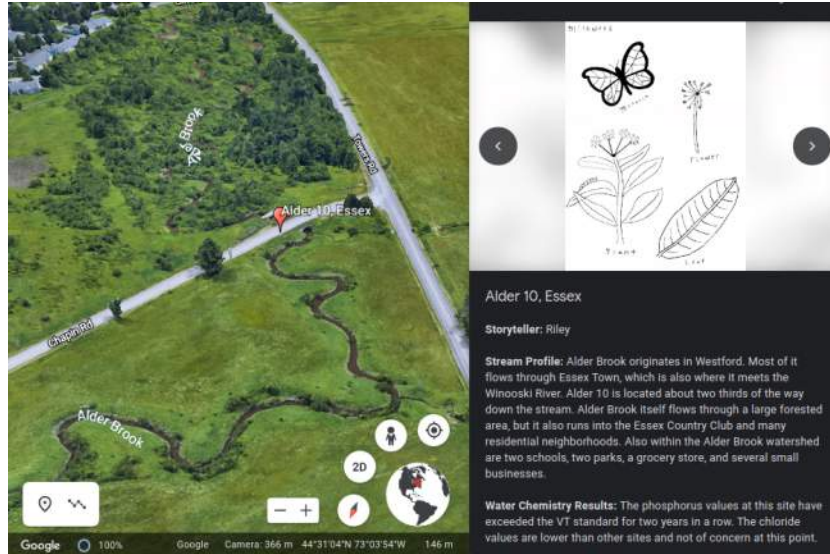


Figure 7: Screenshot of the Google Earth Stream Storytellers Tour

Although this program shifted significantly from years past, many volunteers enjoyed the new format. One volunteer shared, "Thanks so much for your creative and valuable ways to keep us involved and to show us how to build a deeper connection to our stream. You went way above and beyond any expectation I may have had for stream sampling this summer."

Town	# of Volunteers
Burlington	3
Colchester	2
Village of Essex Junction	1
Town of Essex	1
Milton	0
South Burlington	5
Williston	2
Winooski	1
Non -RRST Municipalities	1
TOTAL	16

Table 2: Stream Team Water Quality Sampling Volunteers by town

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 eight public rain gardens managed by RRST. In 2020 all eight gardens were cared for by volunteers. See table 2 for more details.

Rain Garden	Adopter 2020
Chamberlin School, South Burlington	Chris P.
Coast Guard Station, Burlington	Larry K.
Williston Annex	Rita D.
Williston Town Library	Library grounds staff
Callahan Park, Burlington	Brad K.
Farrell Park, South Burlington	Roan O.
South Burlington Fire Station	Cub Scouts 678
South Burlington Library	Cub Scouts 678

Table 3: 2020 Rain Garden Adopters

Volunteer Appreciation Summary

Due to covid we were not able to host an in-person volunteer event, so we sent a small gift to each volunteer on the Stream Team. Each volunteer was invited to choose a pocket field guide (\$5-\$7 each). Field guides were mailed to volunteers with handwritten thank you notes.



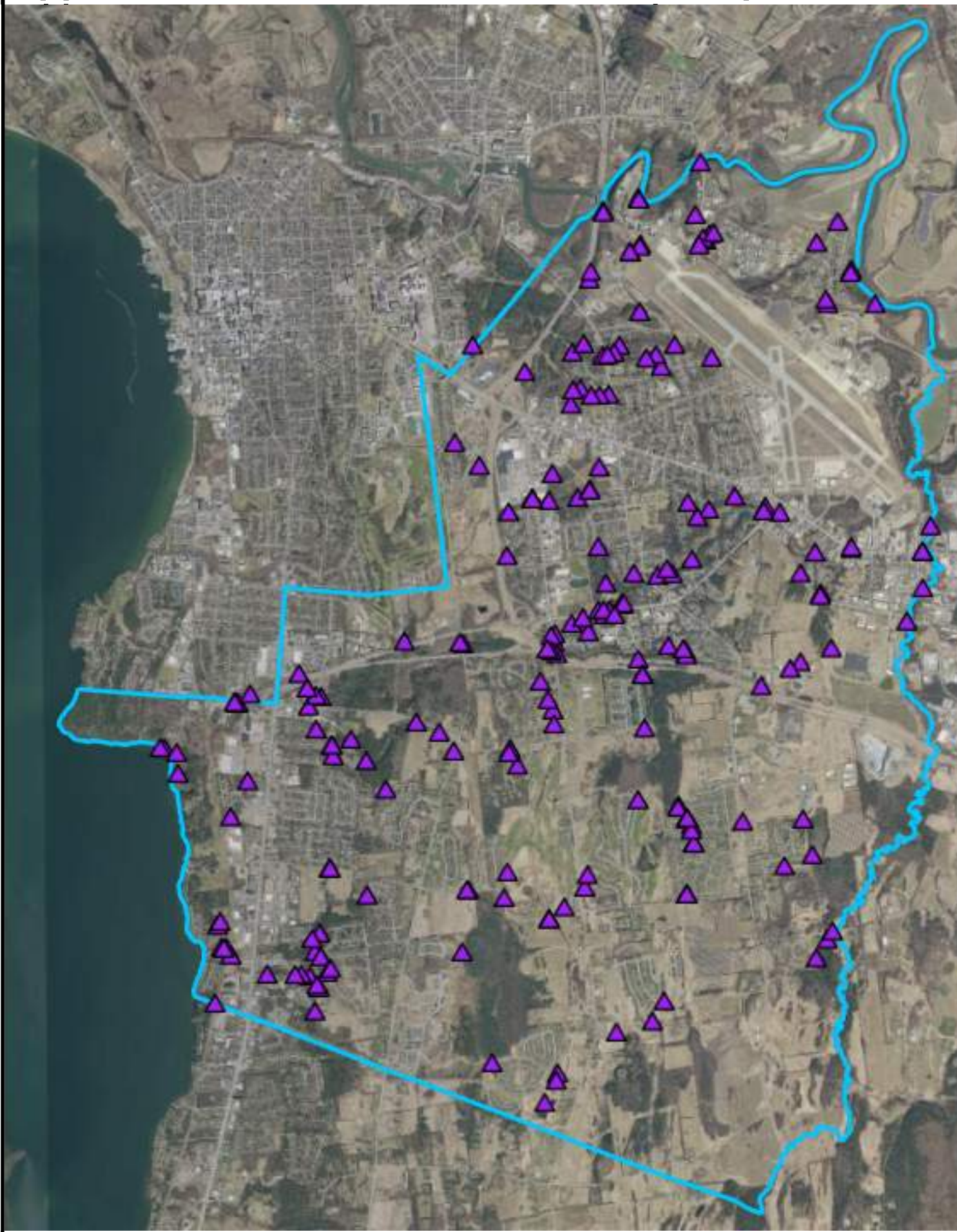
Figure 8: A sample of field guides selected by Stream Team Volunteers as gifts.



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

**Appendix D –
Stormwater Outfall Inspections Completed in 2020**

Appendix D: 2020 Stormwater Outfall Inspections



Appendix E –

**Table of Projects in South Burlington That Disturbed
Greater Than 1 Acre of Land and/or Created Greater Than 1
Acre of Impervious Area in 2020**

Street #	Street	Project Description	Lot Size (sf)	Existing Impervious (sf)	Proposed Impervious (sf)	Impervious Increase (sf)	Construction Disturbance (sf)	Approval #	notes
362	Meadowland Drive	Relocation of proposed shared access	948,301	0	13687	13687	70,500	SP-20-016	Disturbance of 1 acre or more
430	Meadowland Drive	Redesign of previously approved SP-19-07	269,200	0	91763	91763	203,600	SP-20-017	New impervious & Disturbance of 1 acre or more
1200	Airport Drive	Overnight apron	41,033,520	14,077,362	62568	14,139,930	213,000	SP-20-023	New impervious & Disturbance of 1 acre or more
1226	Dorset Street	Clubhouse Estates Subdivision	191,228	0	53540	53540	169,884	SD-20-18	New impervious & Disturbance of 1 acre or more
1200	Airport Drive	Airport Hotel	41,033,520	14,077,362	14845	14,092,207	60,247	SD-20-022	New Impervious of 5,000 sf on site with more than 1 acre of impervious, as well as Disturbance of 1 acre or more
1068	Williston Road	Larkin Hotel	167,706	131588	136828	5240	167,000	SP-19-50	Redeveloped impervious & Disturbance of 1 acre or more
47/119	Tilley Drive	Red Barn Deli & driveway on 119 Tilley	43995 (47 Tilley)	12050	18663	6613	67,954	SD-19-32	Disturbance of 1 acre or more

Appendix F –
List of Construction Site Inspections Conducted in 2020

Construction Site Inspections Conducted By South Burlington DPW in 2020

	ADDRESS	DATE	RESULTS	NOTES
1	O'Brien Farms	1/2/2020	pass	Site in order
2	Cider Mill	1/22/2020	fail	Entrance off cul-de-sac needs improvement, silt in roadway
3	Cider Mill	1/23/2020	pass	Entrance cleaned and fresh stone installed
4	South Village III	1/31/2020	pass	Site in order
5	South Village III	2/10/2020	pass	Walk through phase 3 - in good standing
6	Cider Mill	2/20/2020	pass	Site in order
7	O'Brien Farms	3/11/2020	pass	Site in order
8	8 Woodland	3/21/2020	fail	Entrance needs improvement
9	8 Woodland	3/22/2020	pass	Entrance cleaned and fresh stone installed
10	South Village III	4/10/2020	pass	Phase 3 - in order
11	O'Brien Farms	4/10/2020	pass	Site in order
12	Cider Mill	4/14/2020	pass	Site in order
13	Tilley Drive	4/20/2020	pass	Walk through w/Parker for building project
14	South Village III	4/22/2020	pass	Site in order - beginning site work
15	O'Brien Farms	4/23/2020	pass	Site in order
16	Rye Meadows	4/28/2020	pass	Start up in order - site in order
17	South Village III	4/29/2020	pass	Site in order
18	O'Brien Farms	4/30/2020	pass	Some silt fence needs attention - Parker working on it
19	O'Brien Farms	5/4/2020	pass	Site in order
20	South Village III	5/5/2020	pass	Site in order
21	Tilley Drive	5/7/2020	fail	Entrance & Fencing needs improvement
22	Tilley Drive	5/8/2020	pass	Parker has repaired fencing & improved entrance
23	Cider Mill	5/11/2020	pass	Site in order
24	Windswept	5/12/2020	fail	No fence - will be installed
25	Windswept	5/13/2020	pass	Fence installed
26	O'Brien Farms	5/13/2020	pass	Site in order
27	South Village III	5/18/2020	pass	Paving - rough / base coat
28	Tilley Drive	5/19/2020	pass	Site in order
29	Windswept	5/20/2020	pass	Site in order
30	South Village III	5/26/2020	pass	Paving base coat / Site in order
31	O'Brien Farms	5/27/2020	pass	Site in order
32	Tilley Drive	5/29/2020	fail	Silt in road - Entrance needs improvement
33	Tilley Drive	6/1/2020	pass	Entrance improved - site in order
34	Cider Mill	6/3/2020	pass	Site in order
35	O'Brien Farms	6/4/2020	pass	Site in order
36	South Village III	6/9/2020	pass	Site in order
37	Windswept	6/10/2020	pass	Fence needs minimal repair
38	Windswept	6/11/2020	pass	Fence repaired - in good order
39	1700 Dorset Street	6/15/2020	pass	Site in good order, bike path in need of asphalt replacement
40	O'Brien Farms	6/17/2020	pass	Site in order
41	South Village Phase III	6/22/2020	pass	In order
42	South Village III	6/23/2020	pass	Phase III - Paving - Site in order
43	Tilley Drive	6/23/2020	pass	Site in order
44	O'Brien Farms	6/24/2020	pass	Site in order
45	South Village III	7/9/2020	pass	Site in order
46	Tilley Drive	7/9/2020	pass	Site in order
47	South Village III	7/13/2020	pass	Phase III - In order - Check paving
48	O'Brien Farms	7/13/2020	pass	Site in order
49	Tilley Drive	7/13/2020	pass	Site in order
50	Long Drive	7/21/2020	fail	Meet with contractor regarding ROW work
51	Tilley Drive	7/27/2020	fail	Entrance could use more stone
52	O'Brien Farms	7/27/2020	pass	Site in good standing
53	Long Drive	7/27/2020	fail	Roadway needs cleaning, entrance needs improvement
54	Long Drive	7/29/2020	pass	Site in order - vastly improved
55	Windswept	7/29/2020	pass	Site in order
56	65 Central Ave	7/29/2020	pass	Site in order
57	Long Drive	7/30/2020	pass	Site in order
58	Long Drive	8/3/2020	pass	Site in order
59	O'Brien Farms	8/3/2020	fail	Fencing needs attention
60	Hinesburg Rd	8/3/2020	fail	Need to repair silt fence and add stabilized construction entrance
61	55 Community Drive	8/3/2020	pass	
62	Long Drive	8/4/2020	pass	Site in order
63	South Village Phase III	8/4/2020	pass	Site in order
64	O'Brien Farms	8/4/2020	pass	Fencing repaired - Site in order
65	Cider Mill	8/4/2020	pass	Site in order
66	Windswept	8/4/2020	pass	site in order
67	65 Central Ave	8/4/2020	pass	Site in order
68	55 Community Drive	8/4/2020	fail	Dirty water discharging from the site A small stockpile of soil located on the side of parking lot. Crew will dig a temporary trench to protect from runoff. Closest discharge point is 100+ feet away.
69	Dorset Street Skating Rink	8/4/2020	pass	
70	South Village III	8/4/2020	pass	Clean water discharging site, but may see discharge from larger event
71	O'Brien Farm	8/4/2020	fail	Discharge leaving site
72	194 Golf Course Rd	8/4/2020	pass	The crew will repair silt fence today and add stone check dams to prevent flows offsite. They have installed inlet protection in the Catch basin in front of 150 to capture sediment.

73	Fed Ex Construction	8/5/2020	pass	Overall the site looked good considering the rain. Discharge was clear. SDI will work on stabilizing areas and reinstalling LOD as needed. I spoke with ReArch about getting the engineer to modify the EPSC plans to reflect what they are using in the field.
74	O'Brien Farms	8/6/2020	pass	Meet for paving Laurentide - Site in order
75	OBf	8/10/2020	pass	
76	South village / phase III	8/10/2020	pass	
77	Cider Mill	8/10/2020	pass	
78	O'Brien	8/10/2020	pass	Walked the site with Scott Holmstead to compare notes on concerns. We addressed the need for increased sweeping, inlet protection and stabilization efforts.
79	Airport Parkway	8/11/2020	pass	
80	O'Brien Farm	8/12/2020	pass	Temporary sediment basin, which diverts flows to the stormwater pond, nearly overtopped because hay had clogged the catch basin and culvert. Discussed using stone instead of hay in locations where flow is concentrated
81	Tilley Drive	8/12/2020	pass	
82	55 Community Drive	8/12/2020	pass	Discharge was clear
83	Windswept - end of road top of hill	8/12/2020	pass	Last house in development.
84	1430 Hinesburg RD	8/13/2020	pass	
85	O'Brien	8/14/2020	pass	Contractor was actively working to install EPSC measures prior to weekend shutdown.
86	Midland Avenue / South Village phase 3	8/20/2020	pass	Contractor sub digging foundations for builder (Sterling)
87	O'Brien Farms	8/20/2020	pass	
88	Tilley Drive	8/20/2020	pass	
89	South village phase 3	8/25/2020	pass	
90	South villagephase 3	9/1/2020	pass	
91	Long Drive	9/1/2020	pass	
92	South Village Phase 3	9/14/2020	pass	
93	South Village phase 3	9/22/2020	pass	
94	Rye Meadows	9/24/2020	pass	
95	55 Community Dr	9/28/2020	pass	Discussed rain in forecast with Mike. He will make sure plastic is removed from structure to allow runoff into the sediment pond
96	LongDrive	9/28/2020	fail	Slit fence is not correctly installed.
97	O'Brien farms	9/29/2020	pass	
98	Tilley drive	10/2/2020	pass	Entrance needs cleanup and bikepath some attention - spoke to on site crew and they were responsive.
99	55 Community Drive	10/6/2020	pass	Contractor was actively hauling topsoil to the western berm. They plan to stabilize the berm later this week.
100	O'Brien Farm	10/6/2020	pass	Site was in decent shape in advance of predicted rains tomorrow. The contractor is actively hauling material and will be seeding and mulching areas for winter stabilization at the end of the week. The EPSC measures appear to be installed per plan. But the amount of flow going to the lower section is greater than the 1/4 acre/ 100ft. Additionally, there is not and barrier fencing to delineate the wetland area.
101	1226 Dorset St- VT National Clubhouse Parcel	10/6/2020	pass	
102	O'Brien Farm	10/9/2020	pass	Walk through with Justin and Scott to address any site needs winter conditions take effect.
103	South Village Phase 3	10/14/2020	fail	Site needs cleanup - silt in street from construction entrances. Notified Clovis Arel and will follow up tomorrow.
104	O'Brien Farm	10/29/2020	pass	actor actively working to stabilize areas around haul roads. Inlet protection will be changed in many locations and additional stabilization efforts made this week.

Appendix G–
Stormwater Treatment Practices
Maintained by the City of South Burlington

				Last updated on	3/30/2021
Stormwater Treatment Practice Name	Street	State Stormwater Permit	SBStrmID	Year SWU Began Maintenance	Type
Bartlett Bay Stormwater Treatment System	Bartlett Bay Rd	None	PD0019	2002	Wet Pond
Bartlett Brook Central Gravel Wetland	Keari Ln	None	CW0002	2017	Gravel Wetland
Butler Farms Pond	Marcy Street	2-0312	PD0134	2012	Wet Pond
Cider Mill Pond 2	Winesape Lane	3144-9010.2	PD0090	2018	Wet Pond
Cider Mill Pond 3	Royal Drive	3144-9010.2	PD0064	2018	Wet Pond
Cider Mill Pond 4	Crispin Drive	3144-9010.2	PD0062	2018	Wet Pond
Cider Mill Pond 5	Braeburn Street	3144-9010.2	PD0066	2018	Wet Pond
Cider Mill Pond 6	Crispin Drive	3144-9010.2	PD0061	2018	Wet Pond
City Hall Bio-Retention Area	Dorset St	2-0909	BR0002	2014	Bioretention
City Hall Underground Infiltration	Dorset St	2-0909	ST0026	2014	Storage Vault
Commerce Square Pond	Midas Ave	7294-INDO, 7294-INDS	PD0006	2018	Wet Pond
Dorset Farms Basin A	Midland Ave	3049-9010.RT	PD0058	2018	Wet Pond
Dorset Farms Basin B	Floral Dr	3049-9010.RT	PD0057	2018	Wet Pond
Dorset Farms Basin C	Catkin Dr	3049-9010.RT	PD0056	2018	Wet Pond
Dorset Park Pond	Swift St	1-1033	PD0032	2007	Wet Pond
Farrel Street Swirl Separator	Farrell St	5080-INDO.R	SW0001	2008	Swirl Separator
Farrell Park Constructed Wetland	Swift St	None	CW0003	2007	Gravel Wetland
Farrell Street Bio-Retention	Farrell St	5080-INDO.R	BR0007	2007	Bioretention
Farrell Street Pond	Farrell St	5080-INDO.R	PD0029	2007	Wet Pond
Farrell Street Porous Asphalt	Farrell St	None	PA0001	2007	Permeable Pavement
Foxcroft Pond	Derby Circle	6553-INDO	PD0073	2013	Wet Pond
Gregory Drive Swirl Separator	Gregory Dr	3351-9010	SW0002	2007	Swirl Separator
Harbor Heights Swirl Separator	Harbor View Rd	6294-9030	SW0005	2010	Swirl Separator
Harbor Heights Underground Storage	Harbor Heights	6294-9030	ST0021	2010	Storage Vault
Hayes Avenue Stormwater Detention Basin	Kinsington Street	6553-INDO	PD0072	2013	Wet Pond
Heatherfield Offset Pond	Songbird Rd	3864-INDO.R1T	PD0009	2018	Wet Pond
Heatherfield Pond 1	Songbird Rd	3658-INDS.A1RT	PD0065	2018	Wet Pond
Heatherfield Pond 2	Songbird Rd	3658-INDS.A1RT	PD0011	2018	Wet Pond
Heatherfield Pond 3	Mockingbird Lane	3658-INDS.A1RT	PD0098	2018	Wet Pond
Iby Street Gravel Wetland	Iby Street	None	CW0009	2018	Gravel Wetland
Indian Creek Dry Detention Basin 1	Indian Creek Dr	6285-9030	PD0119	2010	Dry Detention Pond
Indian Creek Dry Detention Basin 2	Indian Creek Dr	6285-9030	PD0120	2010	Dry Detention Pond
Kennedy Drive Pond 1	Kennedy Dr	1-1582	PD0042	2007	Wet Pond
Kennedy Drive Pond 2	Kennedy Dr	1-1582	PD0043	2007	Wet Pond
Kennedy Drive Pond 3	Kennedy Dr	1-1582	PD0044	2007	Gravel Wetland
Kennedy Drive Pond 4	Kennedy Dr	1-1582	PD0045	2007	Wet Pond
Kennedy Drive Pond 5	Kennedy Dr	1-1582	PD0046	2007	Wet Pond
Kennedy Drive Pond 6	Kennedy Dr	1-1582	PD0047	2007	Wet Pond
Kennedy Drive Pond 7	Kennedy Dr	1-1582	PD0048	2007	Wet Pond
Laurel Hill Stormwater Detention Pipes	Sebring Rd	None	ST0002	2017	Storage Vault
Laurel Hill Stormwater Detention Tanks	Laurel Hill Dr	None	ST0001	2002	Storage Vault
Lime Kiln Bridge Swirl Separator	Lime Kiln Rd	None	SW0003	2007	Swirl Separator
Market Street West Pond	Market Street	7483-INDS	PD0175	2020	Wet Pond
Market Street East Pond	Market Street	7483-INDS	PD0184	2020	Wet Pond
Mayfair Park Swirl Sperator	Mayfair Street	7226-INDO	SW0008	2014	Swirl Separator
National Guard Avenue	ational Guard Avenue	6627-9015	PD0143	2013	Wet Pond
Oak Creek Detention Pond 2	Mill Pond Lane	1-0464	PD0054	2012	Wet Pond
Oak Creek Detention Pond 3	Moss Glen Lane	1-0464	PD0055	2012	Wet Pond
Oak Creek Village Micropool (Pond 1)	Hinesburg Rd	1-0464	PD0111	2009	Wet Pond
Picard Circle Infiltration System	Airport Parkway	None	IA0026	2019	Underground Infiltration
Pinnacle Pond A	Pinnacle Dr	1-1155	PD0023	2019	Gravel Wetland
Pinnacle Pond B	Spear Street	1-1155	PD0010	2019	Sand Filter
Pinnacle Pond MO5	Nowland Farm Rd	1-1155	PD0068	2019	Gravel Wetland
Pinnacle Pond MO7	Nowland Farm Rd	1-1155	PD0024	2019	Wet Pond
Quarry Ridge Pond	Juniper Dr	1-1257	PD0025	2009	Wet Pond
Ridgewood Pond	Lexington Green	6285-9030	PD0121	2010	Wet Pond
Route 2 Widening STP5200(18)	Williston Road	6676-INDS	IA0025	2015	Infiltration Basin
South Pointe Dry Swale 1	UpSwept Lane	3443-INDS.1T	SWAL009	2016	Dry Swale

Stormwater Treatment Practice Name	Street	State Stormwater Permit	SBStrmID	Year SWU Began Maintenance	Type
South Pointe Dry Swale 2	UpSwept Lane	3443-INDS.1T	SWAL010	2016	Dry Swale
South Pointe Pond 1	Parkside Road	3443-INDS.R1A	PD0063	2018	Wet Pond
South Pointe Pond 2	UpSwept Lane	3443-INDS.R1A	PD0026	2018	Wet Pond
Stonehedge Northeast Bioretention Area (1)	Stonehedge Dr	2-0100	BR0006	2016	Bioretention
Stonehedge Northwest Bioretention Area (3)	Stonehedge Dr	2-0100	BR0004	2016	Bioretention
Stonehedge Southwest Bioretention Area (2)	Stonehedge Dr	2-0100	BR0005	2016	Bioretention
Stonehedge Stormwater Pond	Stonehedge Dr	2-0100	PD0168	2016	Wet Pond
Stonehouse Village Pond	Cobblestone Dr	3153-9010.R	PD0031	2007	Wet Pond
Summerfield Dry Detention Basin	Wildflower Lane	None	PD0118	2010	Dry Detention Pond
Twin Oaks Pond	N Twin Oaks Terr	2-0825	PD0109	2009	Wet Pond
Valley Ridge	Valley Ridge Dr	3301-9010	SWAL001	2009	Dry Swale
Village at Dorset Park Pond 1	Brand Farm Drive	1-0647	PD0033	2018	Wet Pond
Village at Dorset Park Pond 2	Brand Farm Drive	1-0647	PD0033	2018	Wet Pond
Village at Dorset Park Pond 3	Brand Farm Drive	1-0647	PD0033	2018	Wet Pond
White Rocks Pond	Country Club Dr	4124-9010.R	PD0050	2012	Wet Pond
Winding Brook Pond	Winding Brook Dr	6391-INDS	PD0041	2010	Wet Pond
WNRCD Pond	Dorset St	None	PD0095	2005	Wet Pond
WNRCD Swale	Dorset St	None	Swal008	2005	Dry Swale

**Appendix H –
Municipal Compliance Assistance Program (MCAP)
Inspection Summary Letter**



State of Vermont
Agency of Natural Resources
Department of Environmental Conservation

Environmental Assistance Office
1 National Life Drive, Main 2
Montpelier, VT 05620-3804
(802) 522-0224
john.daly@vermont.gov

Tom DiPietro, Deputy Director/Stormwater Superintendent
South Burlington Public Works
575 Dorset Street
South Burlington, VT 05403

July 18, 2016

Dear Mr. DiPietro:

I enjoyed meeting with you at the South Burlington Public Works facility on June 30th. As you know, this onsite was part of your efforts to meet the Good Housekeeping Provision of the MS4 Stormwater Permit. It was nice to speak with you about environmental compliance issues, as well as take some time to walk around the entire yard surrounding the facility. I have summarized our visit by listing both direct compliance issues for you to address, as well as BMPs we hope you will consider. Feel free to call me if you have any questions or if you're not sure about something.

Overall, I noted that the facility is in really good shape and that you have management systems and/or operating procedures in place to address each operational area. With ongoing improvement and effort, the facility will continue to operate in a manner that minimizes the potential for compliance problems in the future.

During our time together, I noted several issues in bullet format for you to consider. These BMPs/suggestions are ideas we discussed that will help improve upon the good work already being done at the facility. You should also feel free to call me with questions or if you need additional clarification on anything.

BMPs and other suggestions:

- We discussed the magnesium-chloride tanks at the facility, and I recommend you consider a secondary containment structure or berm system around the tanks. In general, we advise secondary containment or diversionary systems for tanks that could catastrophically fail and discharge to surface waters or wetlands. At minimum, a locking valve system would remove the temptation of someone vandalizing the tanks by simply opening the valve and discharging the contents which would quickly reach the lower storm drain and discharge down the hill into wetlands and surface water.
- I like the berm along the entire edge of your materials management area, which ultimately directs stormwater to the low spot where it can settle and slowly infiltrate and sheet flow to the vegetated area below. I encourage you to maintain that berm and continue to clean out any sediment that collects at that low spot, and manage it with your fill pile.
- During our walk behind the shop, we saw a few areas that could use a little seasonal attention. The area has clearly been organized and maintained, but we did see evidence that it could use some attention. I noted a set of 4 tires laying on the ground collecting water, some of the items along the back edge looked like they needed to be disposed of or recycled, and the area around the trash roll-off needed to be cleaned up. Perhaps a load of stone would help the area where the roll off is, collect less



water and not be so muddy. All the recycling should go over to the CSWD drop-off center and the trash should be picked up.

- I recommend an annual walk thru the swale along the back edge of the facility, to remove trash and inspect for any deep storm water cuts. I did note that where the swale transitions to a steeper gradient storm water was starting to cause a cut. You could place a stone check dam or two just before that cut, to slow the water down before it heads down into the gully.
- I recommend anyone using the fuel system at the facility be trained both in fuel system operations, as well as how to deal with a spill if one should occur. I noted you have a spill kit near the fuel area, and recommend you place a few more oil soaking pads in that kit. While you have done active spills training in the past, each person using the fuel island should be formally trained on how to handle a spill. Consider placing numbers to call in the event of a spill at the island, keeping in mind the 2-gallon regulatory reporting threshold for petroleum spills that are released to the environment.
- While we looked at the fuel island, we noticed the map detailing where the tanks were had been removed. I also noted you took care of this issue at the end of our visit, remember to keep an eye on this UST compliance issue, and replace the map as necessary.
- We discussed your wash bay, and the amount of sediment that collects in the trench drain during washing. Consider a baffle or two along the trench, which will collect sediment and trap it in the trench, which might make it easier to maintain.
- Make sure your SPCC plan is current and up to date. The plan must be updated and recertified every 5-years.
- Confirm that you have proper spent fluorescent bulb storage at the facility, or make sure when bulbs are replaced, spent bulbs are immediately taking over to the CSWD Depot. Any spent bulbs present onsite should be properly stored.

Conclusion

I enjoyed the chance to spend some time with you at the City of South Burlington highway facility. Our walk around the entire yard was a good opportunity to get a snap-shot of how you are doing with regard to Good Housekeeping as it applies to the MS4 Stormwater Permit. I noted you are doing an excellent job and should easily be able to address the items we discussed during our time together.

I hope you will use this letter as a source of information to help you in your efforts, and please feel free to call if you're not sure about something. See the fact sheets in the vehicle service guide book for additional information, or take a look at our web site at www.eaovt.org

Thank you for working with our assistance program. We appreciate your positive attitude towards environmental compliance and your willingness to make changes. I look forward to additional work with the City of South Burlington Public Works. I will be happy to assist you whenever possible and encourage you to use all of the resources available from the Environmental Assistance Office. If there is anything we can do in the immediate future, please do not hesitate to call. I can be reached directly at 802-522-0224.

Sincerely,



John Daly
Environmental Assistance Specialist