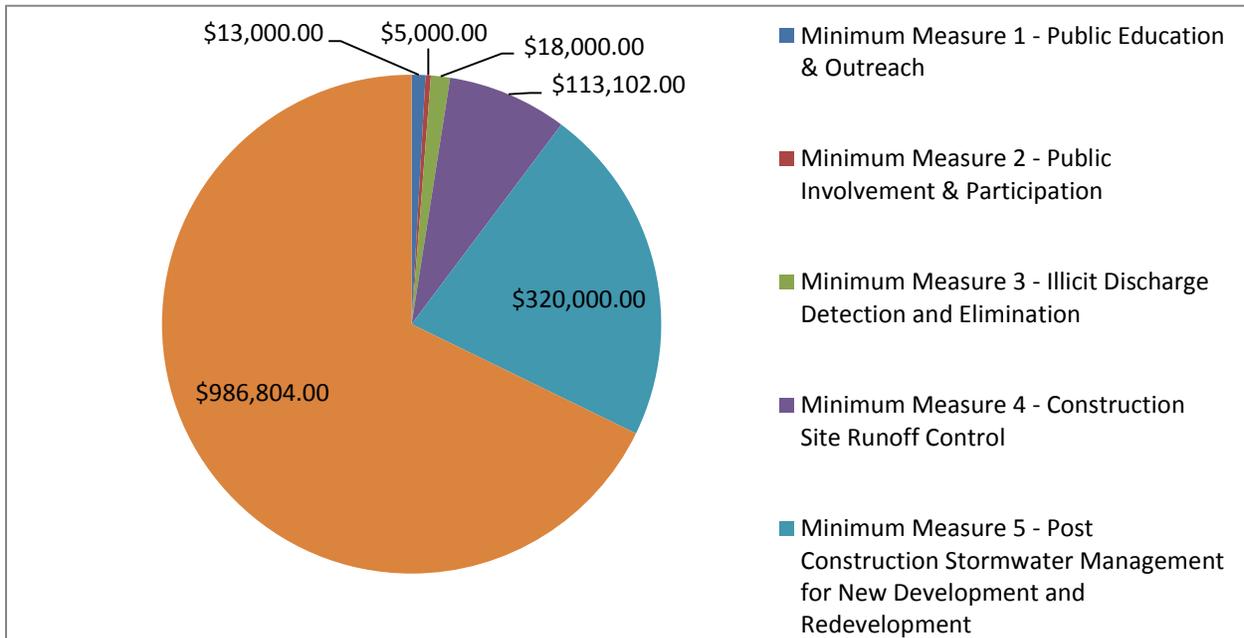


**2013 MS4 Annual Report**  
**Vermont Agency of Transportation**  
**April 10, 2014**

*General Permit 3-9014 National Pollutant Discharge Elimination System  
 Number VTR040000*

In 2013 the Vermont Agency of Transportation (VTrans) spent \$1,455,906.00 implementing the MS4 program. The following table and chart break out the cost per minimum measure:

Minimum Measure	Cost
Total Program Cost	\$ 1,455,906.00
Minimum Measure 1 - Public Education & Outreach	\$ 13,000.00
Minimum Measure 2 - Public Involvement & Participation	\$ 5,000.00
Minimum Measure 3 - Illicit Discharge Detection and Elimination	\$ 18,000.00
Minimum Measure 4 - Construction Site Runoff Control	\$ 113,102.00
Minimum Measure 5 - Post Construction Stormwater Management for New Development and Redevelopment	\$ 320,000.00
Minimum Measure 6 - Pollution Prevention & Good Housekeeping	\$ 986,804.00



## **Minimum Measure 1 – Public Education & Outreach**

### **BMP 1-1 – VTrans Stormwater Website**

**Activity:** A "VTrans Operations Stormwater" web site has been developed and activated by VTrans Operations Division, as responsibility for managing compliance with the MS4 GP has been transferred to Operations in November of 2007. The web site is updated.

**Indicators:** Went live with the new web site in 2009 and maintained the new web site during 2010 through 2013.

**BMP Effectiveness:** This BMP has proven to be somewhat effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$3,000(time for 2 staff)

### **BMP 1-2 – Regional Stormwater Education Program (RSEP)**

**Activity:** VTrans continued its participation in the RSEP and paid the \$5,000 annual operating fee.

**Indicators:** See attached RSEP Annual Review Document (Attachment A)

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$10,000(\$5000 + time for multiple staff)

## **Minimum Measure 2 – Public Involvement & Participation**

### **BMP 2-9 – Regional Stormwater Public Involvement and Participation Program (RSPIPP)**

**Activity:** VTrans continued its participation in the RSPIPP and paid the \$1,800 annual operating fee.

**Indicators:** See attached Stream Team Annual Review Document (Attachment B)

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$5,000(\$1,800 + time for multiple staff)

### **BMP 2-2 – Establish or support a water quality monitoring program involving citizen volunteers.**

**Activity:** VTrans will establish a partnership with a citizen water quality monitoring program in first year and report accomplishments annually.

**Indicators:** VTrans has started the process to establish a partnership and plans to institute a program in the next year.

*BMP Effectiveness:* N/A

*Estimated Expenditures:* \$ N/A

**BMP 2-3 – Institute an on-going public workshop series on stormwater awareness. VTrans will develop and put on workshops for employees**  
**Requirements**

*Activity:* VTrans will report on the number, attendance and, title of trainings provided.

*Indicators:* VTrans has started the process to develop workshops for employees and plans to institute a program in the next year.

*BMP Effectiveness:* N/A

*Estimated Expenditures:* \$ N/A

**BMP 2-6 – Establish and support a citizen “stormwater watch” group. VTrans will develop a web page for citizens to report alleged stormwater concerns, such as erosion, illegal dumping, hazmat spills, unauthorized non-stormwater discharges, etc.**

*Activity:* VTrans will report on the number and the nature of the reports that are submitted annually.

*Indicators:* VTrans has started the process to establish a stormwater watch group web page and plans to institute a program in the next year.

*BMP Effectiveness:* N/A

*Estimated Expenditures:* \$ N/A

**Minimum Measure 3 – Illicit Discharge Detection and Elimination**

**BMPs 3-1 and 3-3 Develop and Implement an Enhanced VTrans Non-traditional MS4s Illicit Discharge Detection and Elimination (IDDE) Policy & Procedure building upon the current prohibition of foreign non-stormwater conveyance systems and work with VTANR and other MS4s to develop and implement enforcement measures**

*Activity:* A plan and prohibition on illicit discharge are in place . VTrans continues to work on an enhanced IDDE Policy & Procedure and an IDDE Testing and Monitoring Protocol to be formally adopted and put into practice to detect and eliminate non-stormwater discharges into the VTrans stormwater systems in the VTrans MS4. VTrans is using the Center for Watershed Protection IDDE Guidance Manual (2009) as its current IDDE. For VTrans, a non-traditional linear MS4, monitoring for and encounters with illicit discharges occurs at multiple levels. Monitoring for illicit discharges occurs as a standard operation procedure under the Permit. Encountering illicit discharges occurs during project development &

design, right-of-way negotiation and acquisition, project construction, maintenance operations, Multi-Sector General Permit (MSGP) inspections, Hazardous Materials Spill Reporting Procedures, or from unsolicited reports from the general public.

**Indicators:** A plan and prohibition on illicit discharge are in place. VTrans continues to work on an enhanced IDDE Policy & Procedure and an IDDE Testing and Monitoring Protocol to be formally adopted to detect and eliminate non-stormwater discharges into the VTrans stormwater systems in the VTrans MS4.

**BMP Effectiveness:** Work under this BMP is moving along and will prove to be very effective. Therefore it will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$3,000 (staff time)

### **BMP 3-2 Maintain GPS and GIS Mapping Project**

**Activity:** VTrans will develop and maintain a storm sewer geographic information systems (GIS) map of the small MS4, showing the location of all outfalls and the names and location of all waters of the State and waters of the United States that receive discharges from those outfalls. In the first year of the permit, VTrans will map infrastructure within the Rugg and Stevens Brook Watersheds. VTrans will update the mapping already completed for the Moon Brook Watershed as well as the Chittenden County area in years 2 and 3 of the permit term.

**Indicators:** In 2013 VTrans mapped 81 Drop Inlets and 173 Culvert Outlets in the Rugg and Stevens Brook Watersheds.

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$ 2,000 (staff and equipment)

### **BMP 3-4 Develop and Implement an IDDE Testing & Monitoring Protocol**

**Activity:** Develop and implement a plan to detect and address non- stormwater discharges, with emphasis on outfalls in the stormwater impaired watershed(s) and random illegal dumping to the system, such as the dumping of RV wastes, used oil, paint, etc. VTrans completed testing of outfalls for illicit discharges in Chittenden County in 2006. VTrans will complete testing of outfalls in the Moon, Rugg and Stevens Brooks following completion of the mapping in those watersheds.

Many of the VTrans and other MS4 storm sewer systems are connected and stormwater flows across MS4 jurisdictional boundaries. VTrans representative(s) have participated in quarterly VANR/CCRPC hosted Phase 2 “Regional Stormwater Education Program” group meetings where MS4 Communities engage in discussions and share information related to MS4 compliance and initiatives. VTrans has coordinated with most MS4 Communities on proposed new private development projects. The drainage infrastructure inventory / ArcGIS Personal Geo Data Base has been sent to the CCRPC and to the VANR-

Stormwater Section and all MS4s, CCRPC, and ANR are working together on a mapping update standardization procedure.

VTrans Operations Stormwater Technician continues to participate in the Regional Stormwater Education Program, where data and information is shared between all MS4s. VTrans is also developing an enhanced IDDE Policy & Procedure and an IDDE Testing and Monitoring Protocol which will be developed in partnership with other MS4s in Vermont due to the interconnectivity of the MS4 storm sewer systems and lack of enforcement authority VTrans has over discharges from non-VTrans property. VTrans has coordinated with all involved MS4s in completing its 2009/2010 Phase I and II IDDE Assessment & Reporting.

### **BMP 3-5 Inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste to satisfy**

**Activity:** VTrans has continued the various trainings for its District Maintenance Personnel on various topics, including stormwater and illicit discharges. RSEP provides multiple opportunities to inform the public on this topic, as does the VTrans and RSEP Stormwater web sites. VTrans will continue to take advantage of activities to the extent practicable to host as many forums as is practicable to meet the intent of this BMP. Additionally, VTrans will develop an informational flyer to give to 1111 permit holders that discusses these hazards.

**Indicators:** VTrans Operations has provided over 50 hours of spill response, waste disposal and Spill Prevention Containment and Countermeasure training to over 50 district personnel located within the MS4 during 2013. VTrans Operations has worked with the VTrans Utilities and Permitting staff to develop flyers.

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$3,000 (staff time)

### **BMP 3- VTrans Title 19, Section 1111 Access Management Program, Highway Permits, and Development Agreements to satisfy**

**Activity:** VTrans has an existing program that issues permits for residential and commercial driveway access to the State Rights-of-Way (ROW). VTrans also issues permits for non-VTrans projects within the ROW. The program includes review of proposals for open and/or closed connection to the VTrans MS4 from residential and commercial property owners. To the extent allowable under State or local law, VTrans uses this Section 1111 Permitting authority to effectively prohibit non-stormwater discharges into the VTrans MS4 storm sewer system and implement appropriate enforcement procedures and actions to satisfy the terms of the Permit. This is implemented through the imposition of Special Conditions (put in place in 2007) under its Title 19, Section 1111 Permitting Authority on all identified proposed and existing connections to the VTrans MS4 stormwater system. VTrans will adopt an illegal connection illicit discharge policy to enhance title 19 authorization in year two.

**Indicators:** VTrans Operations Division and Program Development Stormwater Engineer have started to work with VTrans Utilities and Permitting staff to update and adopt the illegal connection illicit discharge policy to enhance title 19 authority.

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$10,000 (staff time)

## **Minimum Measure 4 – Construction Site Runoff Control**

### **BMP 4-1 – Construction General Permit and Individual Permit Compliance**

**Activity:** VTrans continues to comply, and/or requires others working in our right-of-way under a Section 1111 Permit to comply, with ANR issued General Permit 3-9020 (2008) and/or Individual Permit regulating stormwater runoff from construction sites which result in land disturbance equal to or greater than one acres of land.

**Indicators:** VTrans projects in the MS4 area under construction during 2012 having coverage under an Individual General Permit-3-9020 for Construction include: NONE. Those with coverage under Low Risk under CGP 3-9020 include: ONE. We did not have any other projects in the MS4 that had Construction Permits or SP 652.

- Essex Town STP 5400(5)- Intersection reconstruction and drainage, Low Risk CGP

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$100,000

### **BMP 4-2 – Erosion Prevention and Sediment Control Guidance Materials**

**Activity:** Vtrans will review existing policies to determine their effectiveness in managing construction-related erosion and sediment. The policies will also be reviewed for their consistency with the requirements of the Secretary's general permits for stormwater runoff from large and small construction sites and construction erosion guidelines for low impact development. In 2002 VTrans developed an "Environmental Field Handbook for Culvert and Ditching Procedures". This Handbook is based on field application of the VTrans Statewide Culvert and Ditching Procedures that have been in effect since 1997. The Culvert and Ditching Procedures were developed with participation from the ANR, US Army Corps of Engineer, US Environmental Protection Agency, US Fish and Wildlife Service, and the Federal Highway Administration. The VTrans EPSC Protocol was developed in late Fall 2006 and sets guidelines for Consultants, VTrans Designers, VTrans Construction Management Staff and District field staff for creating and implementing consistent Erosion Prevention and Sediment Control Plans that meet the requirements of the New CGP 3-9020 and for those projects disturbing less than 1 acre with any potential to impact resources. The guidelines include EPSC Plan Checklists, flowcharts, detail drawings,

specifications and general guidance; all of which are posted on the VTrans Environmental Webpage. VTrans will review and update as needed the Culvert and Ditching Procedures and the EPSC Protocol.

**Indicators:** The modified Erosion Log General Special was incorporated into projects beginning in April 2013 but there were no updates to the EPSC Protocol or any other docs.

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** see BMP 4-1

### **BMP 4-3 – Continue implementation of Erosion Prevention & Sediment Control Review Protocol for all VTrans Construction Projects going through the VTrans Contract Administration Process (jurisdictional and non-jurisdictional projects)**

**Activity:** The VTrans EPSC Protocol was developed in late Fall 2006. The protocol replaces the MOA drafted in 2004 and sets guidelines for Consultants, VTrans Designers, VTrans Construction Management Staff and District field staff for creating and implementing consistent Erosion Prevention and Sediment Control Plans that meet the requirements of the Construction General Permit CGP 3-9020 (2008) and for those non-jurisdictional projects disturbing less than 1 acre with any potential to impact resources. The guidelines include EPSC Plan Checklists, flowcharts, detail drawings, specifications and general guidance; all of which are posted on the VTrans Environmental Webpage at <http://www.aot.state.vt.us/TechServices/EnvPermit/erosionpreventionandsedimentcontrol.htm>.

**Indicators:** VTrans continues implementation of its EPSC Protocol developed in 2006. It sets guidelines for Consultant and in-house Designers and field staff for creating and implementing consistent Erosion Prevention and Sediment Control Plans that meet the requirements of the CGP 3-9020 and for those projects disturbing less than 1 acre with any potential to impact resources. The guidelines include EPSC Plan Checklists, flowcharts, detail drawings, specifications and general guidance; all of which are posted on VTrans Environmental Section Webpage. ONE project was under construction in 2010 for which this protocol was applied:

- Essex-Westford STP 2912(1)- Reclaim concrete stabilized base, Non-jurisdictional (under 1 acre and No SP 652 so EPSC Plan under Std Spec 105)

### **BMP 4-4 – Stormwater Management – Erosion Prevention & Sediment control Training**

**Activity:** VTrans offers a broad range of formal training on erosion and sediment control and stormwater management design to agency staff. These training classes are instructed by VTrans and non-VTrans subject experts from around the country.

**Indicators:** For each project that goes out to contract that has environmental impacts the CEE and ACEE meet with each contractor and VTrans field staff to ensure there is a clear understanding of expectations. The CEE and ACEE work with both the Contractor and VTrans field staff to help them better understand how to avoid non-compliance issues. The CEE and ACEE also provide plan review

comments that help educate people throughout the Agency and Contracting and Consulting communities.

Several professional trainings were attended to hone the skills of the Construction Environmental Engineers as well as to further the understanding of some of the challenges they have in the field.

Listed are some of the professional trainings that were attended:

- Civil Applications and Erosion Control Workshop, Thursday March 14, 2013, Hilton, Burlington, VT ~ 6 VTrans Employees for 6 hours
- Core EPSC Training by the VTrans Quality Assurance Unit for Online Review of Project Plans, January 9, 2013 ~ 50 attendees for 1 ½ hours,
- Consultant Construction EPSC Training, March 8, 2013 ~ 43 attendees for 45 min
- EPSC Basic Training for VTrans Construction Inspectors, April 10, 2013 ~ 22 attendees for 3 hrs,
- The Annual Conference of the North East Chapter of International Control Association in Rhode Island November 19-21, 2013 ~ Bill attended for 12 PDUs
- The Problem with Stormwater Runoff, Steve Trinkaus, December 5, Bill attended, 6 hrs (Approx 50 attendees but not sure if any more than Bill from VTrans)
- VTrans Construction Closeout Meetings, Discussed overall 2013 year with Resident Engineers for 30 min. x 3 closeout meetings. Say 1 PDU x 2 = 2 hrs

Also:

- For each project that goes out to contract that has environmental impacts we meet with each contractor and VTrans field staff to ensure there is a clear understanding of expectations. Bill and Andrea work with both the Contractor and VTrans field staff to help them better understand how to avoid non-compliance issues. We also provide plan reviews comments that help educate people throughout the Agency and Contracting and Consulting communities.
- Andrea and Bill are board members on the NE International Erosion Control Association which meets 4 times a year.

***BMP Effectiveness:*** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

***Estimated Expenditures:*** \$10,000 (staff time)

#### **BMP 4-5 – Erosion Prevention and Sediment control Assurance Visits**

***Activity:*** This BMP has evolved with the hiring of the VTrans Construction Environmental Engineer and Assistant Construction Environmental Engineer. The primary purpose of Erosion Prevention and Sediment Control Assurance Visits is to ensure that VTrans protects natural resources and complies with state and federal regulations through implementation of project Erosion Prevention and Sediment Control Plans and compliance with environmental permit conditions. The CEE and ACEE visit VTrans

contracted construction projects to provide input, training, support, and resources relative to erosion prevention and sediment control.

**Indicators:** The CEE and ACEE conducted multiple assurance visits to every VTrans managed construction project statewide. At which time they ensure permit compliance and recommend corrective actions to maintain water quality standards. In the VTrans MS4, there were only 2 projects under construction totaling 10 inspections.

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$3,102 (staff time)

## **Minimum Measure 5 – Post-Construction Stormwater Management for New Development and Redevelopment**

### **BMP 5-1, 5-2, and 5-3 – Maintain Post-Construction Stormwater Management Compliance for VTrans Projects and Implement VTrans internal “Permit Jurisdictional Threshold Gap Procedure” for VTrans Projects not subject to VTANR Post Construction Stormwater Discharge Permitting**

**Activity:** VTrans is complying with the requirements of ANR permit “Stormwater Discharges from New Development and Redevelopment to non-WIP Waters General Permit 3-9015.” VTrans has also developed an internal procedure to address the permit jurisdictional threshold gap between the VANR GP-3-9015 jurisdictional thresholds and the EPA one acre of land disturbance permit threshold. The goal of this internal procedure is to protect water quality by designing post-construction stormwater management systems on all new and redeveloped VTrans projects in the VTrans MS4 to comply with the Vermont Stormwater Management Manual to the extent that is practical.

**Indicators:** USACE VT GP (Cat 1 or Cat 2):COLCHESTER HES NH 5600(14) and VT Operational Stormwater GP3-9015 or INDS: JERICO STP HES 030-1(21) and COLCHESTER STP 5600(9)S

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$270,000

### **BMP 5-1a Green Stormwater Infrastructure Executive Order**

**Activity:** VTrans will assess whether changes can be made to its process and policies in order to support low impact design options whether changes can be made to current street design and parking lot guidelines and other local requirements that affect the creation of impervious surfaces to support low impact design options. Governor Shumlin, in March of 2012, signed an Executive Order which established an Interagency Green Stormwater Infrastructure Council. The Council includes the Secretaries (or delegates) of the Agency of Natural Resources, Agency of Transportation, Agency of

Commerce and Community Development, and the Commissioner of the Department of Buildings and General Services or their designees. Members of the Council are responsible for the development of *Green Stormwater Infrastructure (GSI) Implementation Work Plans*. The purpose of the work plans is to highlight current initiatives, identify barriers to the implementation of green infrastructure practices, and set a direction for the promotion and adoption of green stormwater infrastructure in the years ahead.

**Indicators:** In year 2013, VTrans staff successfully completed the development of the VTrans Green Infrastructure Work Plan (see Attachment C)

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$N/A

### **BMP 5-4 – Asset Management Tool**

**Activity:** VTrans will develop and implement an asset management tool that will ensure adequate inspections and long-term operation and maintenance of Best Management Practices. Permit term years 1 and 2 will focus on the development of the tool with the anticipation of implementing it in year 3.

**Indicators:** In year 2013, Operations staff worked with a consultant to develop the asset management tool for District 8 as a pilot project.

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$35,000

### **BMP 5-6 – Stormwater Management and Erosion and Sediment Control Training**

**Activity:** See BMP 4-4

**Indicators:** See BMP 4-4 In addition, the following Stormwater Management Trainings were provided:

- AWSP Smart Stormwater Retrofitting in the Urban Environment Webinar (2 staff) 2.5hrs
- VEC 2<sup>nd</sup> annual Water Quality Conference (3 staff) 7hrs
- NEIWPC Water Quality Conference (5 staff) 2days
- Valuing Green infrastructure webinar (3 staff) 1hr
- Rivers and Roads Training Tier 1 (130 staff) 2hr
- Rivers and Roads Training Tier 2 (50 staff) 3days
- LID Stormwater tour (3 staff) 8hrs
- Steve Trinkaus GSI/ LID training (25 staff) 7hrs

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$15,000 (see BMP 4-4 plus additional costs associated with Stormwater related trainings)

## **Minimum Measure 6 – Pollution Prevention & Good Housekeeping**

### **BMP 6-1 – Enhance VTrans MS4 related Maintenance & Best Management Activities**

**Activity:** VTrans continued with this ongoing effort. See Indicators & Accomplishments.

**Indicators:**

- # of VTrans Culvert Outfalls Inspected/Surveyed in the VTrans MS4 coverage area = 197
- # of VTrans Catch Basins Inspected/Surveyed in the VTrans MS4 coverage area = 143
- # of Catch Basins Cleaned and cubic feet of material collected in the VTrans MS4 coverage area = Cleaned 282 basins or 280 c.y.
- Street Sweeping: approximately 40 miles of road collecting 31.5 cubic yards of material collected in the VTrans MS4 coverage
- Green-up # tons of trash disposed of all of in the VTrans MS4 coverage area = 15.2 tons.
- VTrans generated and disposed of roughly 1 ton of various waste streams in the MS4 area. We are successfully implementing a host of pollution prevention strategies that has virtually eliminated Hazardous Waste Disposal generated by the District Garages.
- In 2013 there were 26 spills reported on roadways with 8 constituting State ROWs. 2 of the spills were the responsibility of VTrans
- The Vtrans Haz Mat Section conducted over 50 hours of spill response, waste disposal and Spill Prevention Containment and Countermeasure training to over 50 personnel in the MS4 area during 2013.

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$314,510.25 (includes payment to South Burlington under MOU as well as District and staff time – some costs carried under BMP 3.B)

### **BMP Activities related to Lake Champlain Phosphorus TMDL**

**Activity:** Sand reduction, phosphorus reduction and roadside bank stabilization projects including riparian corridor restoration/bank stabilization/buffer enhancement

**Indicators:** VTrans highway traction sand use = NONE

Slope/Ditch repair work: Williston ER 089-2(47) French Hill SB Ditch Repair

Fertilizer Use:

Fertilizers are not tracked in MATS. Only invoices are available to determine how much was purchased and possibly used. Fertilizing is used primarily for turf establishment, typically for ditches, slopes and

around culverts. It is more common that the Districts do not use any. No effort is under way to reduce fertilizers. When they do apply them, usually it is a 10-10-10 formula with no specific rate of application. Contractors establishing turf for the Districts, generally hydro seed using a liquid 19-19-19 fertilizer.

No effort to reduce phosphorous. No indication that it is being misused. House bill passed in 2011 primarily addressing turf maintenance. This bill requires use of only low or no phosphorous fertilizers unless a soil test is taken to require more. VTrans does not use any fertilizer for turf management.

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term. More work with Fertilizers may be needed.

**Estimated Expenditures:** \$40,000 for staff time and resources in support of this BMP are carried here. \$616292.94 for the French Hill Ditch Repair project.

## **BMP Activities related to Herbicide Use**

**Activity:** Manage and reduce Herbicide use, provide appropriate training, certifications, license and permits.

**Indicators:** Herbicide Use = Chittenden County – Oust XP 16lbs and Rodeo 32 gallons

Rutland County – Oust XP 17 lbs and Rodeo 33.8 gallons

Franklin County – Oust 9.1 lbs and Rodeo 18.3 gallons

Training = Eight hour of instruction for fifteen people was conducted for pesticide training. 24 hours of individual training conducted for pesticides throughout the year.

**BMP Effectiveness:** This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.

**Estimated Expenditures:** \$6,000 (staff time to manage and apply)

## **Additional Reporting**

### **Stream Flow Monitoring**

On December 31, 2013 the VTrans provided a letter to Vermont DEC detailing its plans for moving forward with stream flow monitoring (Attachment D). VTrans plans to implement the steps detailed in this letter and update our Stormwater Management Plan (SWMP) once the plan is approved by Vermont DEC. In addition, the Vermont Legislature is currently considering a bill (H.560) that would allow the State of Vermont to collect funds to manage a flow monitoring program. Compliance with this permit requirement has been met by these two actions.

### **Flow Restoration Plan (FRP) Development**

VTrans must participate in the development of 11 FRPs for the stormwater impaired watersheds located within VTrans's MS4 boundary. VTrans intends to work with other MS4s and hire consultants to

complete these FRPs by the deadlines specified in the MS4 permit. Below is an update on VTrans's progress on individual FRPs:

- Allen Brook FRP – VTrans began work on a FRP for the Allen Brook watershed in 2011. Significant progress towards identification of STPs necessary to meet flow targets has been completed. VTrans still needs to prepare a financial plan and implementation schedule before this FRP can be considered complete.
- Bartlett Brook FRP – VTrans has not yet begun work on a FRP for the Bartlett Brook watershed. However, the City of South Burlington began work on a FRP for the Bartlett Brook watershed in March 2014 and VTrans plans to work collaboratively with South Burlington to complete this FRP.
- Centennial Brook FRP – VTrans began work on a FRP for the Centennial Brook watershed in 2013. Significant progress towards identification of STPs necessary to meet flow targets has been completed. VTrans still needs to prepare a financial plan and implementation schedule before this FRP can be considered complete.
- Englesby Brook FRP – VTrans has not yet begun work on a FRP for the Englesby Brook watershed. We plan to work with the City of Burlington to complete this FRP in future years.
- Indian Brook FRP – VTrans has not yet begun work on a FRP for the Indian Brook watershed. However, the Town of Essex began work on a FRP for the Indian Brook watershed in early 2014 and VTrans plans to work collaboratively with Essex to complete this FRP.
- Moon Brook FRP– VTrans began work on a FRP for the Moon Brook watershed in 2013. Significant progress towards identification of STPs necessary to meet flow targets has been completed. VTrans still needs to prepare a financial plan and implementation schedule before this FRP can be considered complete.
- Munroe Brook FRP – VTrans has not yet begun work on a FRP for the Munroe Brook watershed. However, the Town of Shelburne began work on a FRP for the Munroe Brook watershed in early 2014 and VTrans plans to work collaboratively with Shelburne to complete this FRP.
- Potash Brook FRP – VTrans has not yet begun work on a FRP for the Potash Brook watershed. We anticipate beginning work on this FRP in late 2014.
- Rugg Brook FRP - VTrans began work on a FRP for the Rugg Brook watershed in 2013. Significant progress towards identification of STPs necessary to meet flow targets has been completed. VTrans still needs to prepare a financial plan and implementation schedule before this FRP can be considered complete.
- Stevens Brook FRP- VTrans began work on a FRP for the Stevens Brook watershed in 2013. Significant progress towards identification of STPs necessary to meet flow targets has been completed. VTrans still needs to prepare a financial plan and implementation schedule before this FRP can be considered complete.
- Sunderland Brook FRP - VTrans has not yet begun work on a FRP for the Sunderland Brook watershed. However, the Town of Essex began work on a FRP for the Sunderland Brook watershed in early 2014 and VTrans plans to work collaboratively with Essex to complete this FRP.

## Plan for Addressing Expired State Stormwater Permits

VTrans plans on addressing two expired permits in the Stormwater Impaired Watersheds

1. Permit # 1-1401 Williston Welcome Center
  - a. This permit is issued to the Vermont Department of Buildings and General Services (BGS), VTrans will work with BGS to upgrade the system to include a CPv addition to its detention pond per the Draft Allen Brook Flow Restoration Plan.
2. Permit # 1-1291 – Shelburne – South Burlington US7 – Impaired Watershed
  - a. VTrans will hire a consultant to evaluate the potential to upgrade this system in order to meet the soon to be developed flow restoration plan for Munroe Brook.

Attachment A  
RSEP Annual Review Document

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Attachment B  
Stream Team Annual Review Document

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Attachment C  
VTrans Green Stormwater Infrastructure  
Work Plan

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# Attachment D

## Flow Monitoring Plan

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