

2010 VTRANS MS4 ANNUAL REPORT

VTrans SWMP 2008-2013 Best Management Practices used to Comply with MS4 Minimum Control Measures #1 thru #6

Minimum Control Measure #1 "Public Outreach & Education"						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 1.A Regional Stormwater Education Program	Public, VTrans, Consultants, Municipalities, VANR	Monthly RSEP Meetings for Permit Term	As defined in RSEP MOU and reported annually. The Steering Committee, assisted by the CCPRC and media consultants, will implement media advertising campaign and provided stormwater education services that satisfy the requirements of Minimum Control Measure #1 ("Public Education and Outreach"). The Program Content for each Program Year will be as defined in the Communications Plan for that year as approved by a majority of the RSEP Steering Committee. Annual Program elements will include, at a minimum: 1) operation of the RSEP website, www.smartwaterways.org or its equivalent; 2) the hosting of occasional educational seminars open to the public concerning stormwater pollution prevention and related topics; and, 3) advertisements in various media. In the annual report that is required under Part 5.3 of the Permit, public education and outreach activities and initiatives will be summarized.			
Activity: VTrans continued its participation in the RSEP and paid the \$5,000 annual operating fee.					\$5000 + time for multiple staff	\$ 10,000
Indicators / Measurable Accomplishments: See attached RSEP Annual Review Documents (Attachment A).				Attachment A		
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 1.B VTrans Stormwater Website	Public, VTrans, Consultants, Municipalities, VANR	Manage and Update for Permit Term	A summary of actions taken and progress made on the proposed action items, the number of visits recorded on hit counter, and suggestions or comments from public will be reported annually.			
Activity: A new "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 as needed and provides the opportunity to review all VTrans MS4 documents.						
Indicators / Measurable Accomplishments: Went live with the new web site in 2009 and maintained the new web site during 2010. The Agency has disabled the web hit counter for budget considerations and there were no public inquires reported.				Web site kept current	time for 2 staff	\$ 3,000
BMP Effectiveness: This BMP has proven to be somewhat effective and will be continued thru the remainder of the Permit Term with minor modification. Due to the hit counter being disabled Agency-wide on all web sites, VTrans will no longer be reporting this information.						
BMP 1.C Storm Drain Markers	Public, VTrans, Municipalities	Install with D-5 forces over Permit Term	Report number and location installed annually.			
Activity: Storm drain markers continued to be installed as structure maintenance was performed.						
Indicators / Measurable Accomplishments: No markers were installed this year.				Zero storm drain markers	na	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 1.D VTrans Operations Environmental Coordinator Position	Public, VTrans, MS4 Communities, Federal and State Regulatory Agencies, other professionals	Permit Term	Report on activities performed in support of this BMP annually.			
Activity: The former VTrans Environmental Coordinator position was transferred from the VTrans Program Development-Environmental Section to the VTrans Operations Division and the Operations Environmental Coordinator (OEC) position was filled in November 2007. The primary duty of the OEC is to provide regulatory compliance and support on permitting and compliance with a specific emphasis on State and Federal Stormwater Regulations.						
Indicators / Measurable Accomplishments: The OEC provided support activities associated with managing compliance with the MS4 GP and other Federal and State Stormwater Regulations and participated in all RSEP MCM#1 Meetings and Activities.				OEC	time devoted to this BMP not included in above BMPs	\$ 3,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						

Minimum Control Measure #2 "Public Involvement & Participation"						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 2.A VTrans Stormwater Advisory Group (SWAG)	Public, VTrans, public water suppliers, MS4 Communities, State and Federal Regulators	The SWAG meets on a quarterly basis (at a minimum) and more frequently as the need arises.	Meeting meeting dates, agendas, participants, tasks accomplished, and projects undertaken will be summarized annually.			
Activity: VTrans SWAG replaced with VTrans Stormwater Steering Committee and moved to MCM #6.						
Indicators / Measurable Accomplishments: See MCM #6				See MCM #6	see MCM #6	\$ -
BMP Effectiveness: This BMP has proven to be non-effective in addressing Public Involvement & Participation. It has however proven to be very effective as a Good Housekeeping BMP and will be continued thru the remainder of the Permit Term under its current form but will be moved to MCM#6. VTrans will make this adjustment in its SWMP for the reissued MS4 Permit.						
BMP 2.B Regional Planning Coordination	Public, MS4 Communities, RPCs	Ongoing and continued involvement	List CCMPO and CCRPC public meeting dates that VTrans attended during which transportation projects and stormwater management were discussed.			
Activity: VTrans Policy and Planning Division continues to carry out the Vermont Transportation Planning Initiative (TPI), in coordination with the Chittenden County Metropolitan Planning Organization (CCMPO) and with the Chittenden County Regional Planning Commission (CCRPC). The VTrans Policy and Planning Division Regional Transportation Planning Coordinators worked directly with the CCMPO and indirectly (by way of the CCMPO) with CCRPC. The VTrans coordinators and these organizations solicited local input, identified needs, developed regional transportation plans and transportation improvement programs, and provided planning capacity to VTrans on an ongoing basis. The CCMPO and the CCRPC provided significant and in-depth public involvement and participation in transportation planning.						
Indicators / Measurable Accomplishments: VTrans has and will continue to work with the CCMPO and the CCRPC to ensure that the public is involved in transportation planning including stormwater management issues.				CCMPO & CCRPC Meetings	staff time	\$ 79,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 2.C Project Related Public Notice/Participation Requirements	Public	Permit Term	Information will be provided about water quality protection related permits acquired for VTrans projects and activities within the VTrans MS4 annually.			
Activity: VTrans obtains environmental permits for most development projects. Several of these permit processes require public notice and allow for substantial public participation and input affecting the final development of transportation projects.						
Indicators / Measurable Accomplishments: ESSEX JCT. STP 5300(11) - Construction GP obtained 2/16/2010 ESSEX TOWN STP 5400(5) - Operational Stormwater permit obtained 3/15/2010; Construction GP obtained 1/14/2010 MILTON STP SDWK(8) - USACE permit obtained 11/10/2010 SOUTH BURLINGTON STP SSMG(47) - USACE permit obtained 9/15/2010 SOUTH BURLINGTON IM CULV(23) - Stream Alt 2/24/2010; USACE permit obtained 3/30/2010; Construction GP obtained 2/23/2010 WILLISTON STP EH05(34) - USACE permit obtained 5/19/2010; Construction GP obtained 9/16/2010				10 water quality related permits obtained for projects within MS4	estimated costs are spread agency wide and are difficult to break out as many VTrans project manager, designers, environmental permitting staff and consultants are involved	\$ 200,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 2.D Low Impact Development Workshops & Projects	Public, Educators, Developers, Municipalities, VTrans.	Conduct at least three workshops and involve the public in construction of at least two projects over the Permit Term.	Workshop dates, topics, participants, and public involvement in constructing and monitoring LID Projects will be reported annually.			
Activity: VTrans did not perform any activity under this BMP during 2010. VTrans and other MS4s did, however put a lot of time and effort into developing a regional approach to complying with MCM#2 and hope to implement this regional MCM#2 program in calendar year 2011. Should this program be put in place, VTrans will still be providing LID workshops and projects, but through a third party. Our SWMP should not need to change.						
Indicators / Measurable Accomplishments: None to report this time period. Working on Regional MS4 effort to accomplish this via 3rd party and will report accomplishments under 2012 Annual Report.				none implemented	na	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 2.E VTrans Stormwater Website	Public, VTrans, Consultants, Municipalities, VANR	Manage & Update for Permit Term	A summary of actions taken and progress made on the proposed action items, the number of visits recorded on hit counter, and suggestions or comments from public will be provided annually.			
Activity: A new "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 as needed and provides the opportunity to review all VTrans MS4 documents.						
Indicators / Measurable Accomplishments: Went live with the new web site in 2009 and maintained the new web site in 2010. The Agency has disabled the web hit counter for budget considerations and there were no public inquires reported.				NA	time for 2 staff (see BMP 1.B for cost)	\$ -
BMP Effectiveness: This BMP has proven to be somewhat effective and will be continued thru the remainder of the Permit Term with minor modification. Due to the hit counter being disabled Agency-wide on all web sites, VTrans will no longer be reporting this information.						

Minimum Control Measure #2 "Public Involvement & Participation" CONTINUED

Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 2.F VTrans Operations Environmental Coordinator Position	Public, VTrans, MS4 Communities, Federal and State Regulatory Agencies, other professionals	Permit Term	Report on activities performed in support of this BMP annually.			
<p>Activity: The former VTrans Environmental Coordinator position was transferred from the VTrans Program Development-Environmental Section to the VTrans Operations Division and the Operations Environmental Coordinator (OEC) position was filled in November 2007. The primary duty of the OEC is to provide regulatory compliance and support on permitting and compliance with a specific emphasis on State and Federal Stormwater Regulations.</p>						
<p>Indicators / Measurable Accomplishments: The OEC provided support activities associated with managing compliance with the MS4 GP and other Federal and State Stormwater Regulations and manages all activities under MCM#2.</p>				OEC	time devoted to this BMP not included in above BMPs	\$ 5,000
<p>BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.</p>						

Minimum Control Measure #3 "Illicit Discharge Detection & Elimination"						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 3.A Maintain GPS and GIS Mapping	Public, Municipalities, Regional Planning Commission, VANR, VTrans Operations and Program Development Staff	There will be on-going update of information through the term of the Permit	In the annual report that is required under Part 5.3 of the Permit, a summary of any changes to the 2007 mapped stormwater management system will be documented by VTrans for use in future mapping updates. Updated mapping GIS/GPS information will be collected and furnished to VANR and CCRPC only after a standard procedure has been agreed upon by VANR, CCRPC, and the MS4s. Additionally, VTrans will provide updates on the names of all known waters that receive a discharge from the VTrans MS4 and the number of outfalls to each identified water as considered necessary due to changes resulting from roadway reconstruction projects or stormwater infrastructure enhancements.			
Activity: In 2010 completed a Map of State Owned Impervious Surfaces in Chittenden County MS4 Area and calculated area and percent of impervious per impaired watershed and per municipality (within MS4 designated limits). VTrans also initiated in 2009 and completed in 2010 an update to its 2008 MS4 Outfall Map Book based on 2009 IDDE field investigations and also updated its Outfall and Drop Inlet Counts by Impaired Watershed (making note of outfalls not found or mistakenly including Stevens and Rugg Brook data, and conversion of VT 15 in Essex Jct to Class I). Copies of all provided to ANR and CCRPC.				NA	CCRPC & VTrans Time	\$ 2,000
Indicators / Measurable Accomplishments: Completed a Map of State Owned Impervious Surfaces in Chittenden County MS4 Area and calculated area and percent of impervious per impaired watershed and per municipality (within MS4 designated limits). Completed an update to the VTrans MS4 Outfall Map Book based on 2009 IDDE field investigations and also updated our outfall and drop inlet counts by watershed.				no new mapping associated with MS4 outfalls conducted however we did update previous mapping data during IDDE field work	Consultant time built in under BMP 3.B. VTrans Asset Management time spent updating the mapping is carried under this item.	\$ 2,500
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term. Specifically, any changes to current mapping will be reported to ANR and CCRPC.						
BMP 3.B Testing & Monitoring Plan	Public, Commercial Developers, Municipalities, VANR, VTrans Operations and Program Development Staff.	Finalize the IDDE Testing and Monitoring Protocol for suspect dry weather non-stormwater discharge. Continue outfall testing and monitorin through the term of the Permit with the goal of inspecting all outfalls one time over the 5 year Permit Term. Testing will occur as discharges are discovered and declared to be suspect as being non-stormwater.	In the 2008-2013 Permit Term, VTrans will develop and adopt an enhanced IDDE Policy and Procedure (BMP 3.F) and an IDDE Testing & Monitoring Protocol (BMP 3.B) to support accomplishments made in the 2003-2008 Permit Term. VTrans will provide a copy of the enhanced IDDE Policy & Procedure and the IDDE Testing and Monitoring Protocol for VTrans MS4 as an attachment to our 2008 annual report. VTrans will provide a summary of the testing and monitoring plan methodology, survey information, locations of suspected non-stormwater discharges, data gathered, and actions taken to eliminate the suspected non-stormwater discharge in each annual report that is required under Part 5.3 of the Permit. Data will be reported using standard Discharge Monitoring Forms (MDRs) provided by the VANR.			
Activity: A plan and prohibition on illicit discharge are in place (see BMP 3.D). VTrans continues to work on an enhanced IDDE Policy & Procedure (BMP 3.F) and an IDDE Testing and Monitoring Protocol (BMP 3.B) to be formally adopted to detect and eliminate non-stormwater discharges into the VTrans stormwater systems in the VTrans MS4. In 2009 VTrans hired VHB-Pioneer to conduct a Phase I IDDE Outfall Screening, Assessment, and Field Investigation using the Center for Watershed Protection IDDE Guidance Manual (2009) as its testing and monitoring protocol. Under Phase I a total of 869 Mapped Outfalls were screened which resulted in field inspection of 833 outfalls, of which 45 suspect outfalls required further investigation and evaluation under Phase II. The Phase I Final Report was completed and results were reported under the 2009 Annual Report. VTrans contracted with VHB-Pioneer to conduct Phase II Field work and water quality testing at the end of October 2009, water quality sampling on 40 priority outfalls was conducted in 2009 and 2010. 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. VTrans BMPs contributing to the testing and monitoring of Illicit Discharges are addressed under the 2008-2013 VTrans MS4 Stormwater Management Plan.						
Indicators / Measurable Accomplishments: Under Phase II IDDE contract with VHB-Pioneer: 1) conducted water quality sampling & testing at 40 priority outfalls; 2) conducted in depth outfall analysis and investigation (dye testing, camera inspection) and facility inspections in cooperation with Municipal MS4s and private land owners. Refer to October 2010 Final Report from VHB-Pioneer submitted to ANR - Stormwater Section. The VTrans Roadway Assesment Management Unit inspected zero (0) small culverts (under 6-ft) and zero (0) DIs in the VTrans MS4 and did not report any suspicious water quality issues. The District inspected 8 Culvert Outfall and 40 Stormwater Structures as part of routine maintenance and did not report any suspicious water quality issues. The Operations Large Culvert Inspection Unit inspected zero (0) culverts in the designated MS4 area and did not report any suspicious water quality issues. Two Overland Illicit Discharges in the designated MS4 were referred to the Municipallity for remediation.				40 outfalls - water quality testing & investigation. Of the 40, VTrans referred 2 outfalls to local public works departments for remediation with private property owners.	VHB-Pioneer Phase II \$27,802 + OPS D5 time (\$8,000) plus VTrans time to coordinate/review/edit...	\$ 40,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 3.C Coordination with other MS4s in Vermont	MS4 Municipalities, CCRPC, VANR, VTrans Staff.	Coordination is ongoing for the Permit term.	Provide a summary as required under Part 5.3 of the Permit addressing all collaborative efforts underway or completed that address this BMP.			
Activity: 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 monthly 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 (BMP 1.A). VTrans has coordinated with most MS4 Communities on proposed new private development projects (BMPs 2.A, 2.B, 2.C, and 2.F). 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 (BMP 3.A). VTrans Operations Environmental Coordinator (BMP 3.G) and Program Development Environmental Stormwater Engineer (BMP 5.B) continue to participate in the monthly Regional Stormwater Education Program, where data and information is shared between all MS4s. VTrans is also developing an enhanced IDDE Policy & Procedure (BMP 3.F) and an IDDE Testing and Monitoring Protocol (BMP 3.B) 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 (see BMP 3.B)						
Indicators / Measurable Accomplishments: RSEP involvement, mapping coordination, and IDDE coordination/referral (see BMPs 1.A, and 3.B).				see BMP 1.A and 3.B	see costs uner BMP 1.A and 3.B	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						

Minimum Control Measure #3 "Illicit Discharge Detection & Elimination" CONTINUED						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 3.D Title 19, Section 1111 Permitting	Public, Municipalities, VANR, VTrans.	Ongoing for Permit Term.	A tracking system to account for these types of Section 1111 Permits on an annual basis will be put in place to assist in generating the annual report to VANR. A summary of the number of suspect illicit discharges reported, investigated and acted upon, and the number of Section 1111 permits issued for legal stormwater connections to the VTrans right-of-way, and the number of illicit discharge enforcement actions taken or forwarded to the MS4 Municipalities or VANR, along with an effectiveness statement of this BMP will be reported annually.			
Activity: During the 2003-2008 Permit Term, the Standard Conditions of the Section 1111 were updated to effectively prohibit and regulate illicit discharges. This permitting program is reviewed annually, and where appropriate modified to add further constraints to prevent discharge of non-stormwater discharges or pollutants into the VTrans MS4. The goal of this effort is to ensure proper management of stormwater from non-VTrans projects prior to it entering the VTrans stormwater systems. VTrans Operations Division OEC and Districts and Program Development Stormwater Engineer review Section 1111 proposals and work with VTrans Utilities and Permitting staff and applicants to prohibit physical connections to the State stormwater management system where feasible, disconnect non-stormwater discharges, and to educate private property owners regarding on-site treatment practices available to them.						
Indicators / Measurable Accomplishments: VTrans Operations Division OEC and Districts and Program Development Stormwater Engineer review Section 1111 proposals and work with VTrans Utilities and Permitting staff and applicants to prohibit physical connections to the State stormwater management system where feasible, disconnect non-stormwater discharges and to educate private property owners regarding on-site treatment practices available to them. Of all the projects reviewed in the MS4 Coverage Area, no illicit connections were reported nor actions taken against to force disconnection.				no reports of illicit discharges received and no Section 1111 enforcement actions taken against non-stormwater connections	staff time	\$ 10,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 3.E Inform Public Employees, Businesses, & General Public	Public, Municipalities, Professionals, Businesses, VANR, VTrans	Ongoing for the Permit Term	A summary of methods used to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste, along with a summary of the effectiveness of this BMP will be reported annually.			
Activity: VTrans has continued the various trainings for its District Maintenance Personnel on various topics, including stormwater and illicit discharges (BMPs 1.A through 1.D, 2.A, 2.D, 2.E, 2.F, 3.C through 3.H, 4.E, 4.I, 5.C, and 6.D). VTrans SWAG (now SWSC) and RSEP provide multiple opportunities to inform the public on this topic, as does the VTrans and RSEP Stormwater web sites (BMPs 1.A, 1.B, and 2.E). VTrans will continue to take advantage of activities under the 2008-2013 SWMP to the extent practicable to host as many forums as is practicable to meet the intent of this BMP.						
Indicators / Measurable Accomplishments: VTrans Operations has provided 8 hours of training and outreach to all District 5 Staff in the areas of Spill Prevention, Containment and Countermeasures, Spill Response and Notification Procedures, and Emergency Response.				20 training hours	staff time	\$ 2,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 3.F Enhanced IDDE Policy & Procedure adoption for VTrans MS4. Policy implementation for Permit Term	Public, Municipalities, VANR, VTrans Roadway, Structures, Environmental, Construction, and Operations staff.	Enhanced IDDE Policy & Procedure adoption for VTrans MS4. Policy implementation for Permit Term	Provide a copy of the Illicit Discharge Detection & Elimination Policy & Procedure for VTrans MS4 as part of 2008 annual report. A summary and effectiveness of this BMP will be included in the annual report.			
Activity: A plan and prohibition on illicit discharge are in place (see BMP 3.D). VTrans continues to work on an enhanced IDDE Policy & Procedure (BMP 3.F) and an IDDE Testing and Monitoring Protocol (BMP 3.B) 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 Procedure and will look to formalize the use of this in its 2011 SWMP update under the new MS4 Permit. 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. VTrans BMPs contributing to the testing and monitoring of Illicit Discharges are addressed under the 2008-2013 VTrans MS4 Stormwater Management Plan.						
Indicators / Measurable Accomplishments: A plan and prohibition on illicit discharge are in place (see BMP 3.D). VTrans continues to work on an enhanced IDDE Policy & Procedure (BMP 3.F) and an IDDE Testing and Monitoring Protocol (BMP 3.B) to be formally adopted to detect and eliminate non-stormwater discharges into the VTrans stormwater systems in the VTrans MS4.				no new action - enhanced policy statement still pending	staff time	\$ 3,000
BMP Effectiveness: Work under this BMP is moving along, but will prove to be very effective. Therefore it will be continued thru the remainder of the Permit Term.						
BMP 3.G VTrans Operations Environmental Coordinator Position	Public, VTrans, MS4 Communities, Federal and State Regulatory Agencies, other professionals	Permit Term	Report on activities performed in support of this BMP annually.			
Activity: The former VTrans Environmental Coordinator position was transferred from the VTrans Program Development-Environmental Section to the VTrans Operations Division and the Operations Environmental Coordinator (OEC) position was filled in November 2007. The primary duty of the OEC is to provide regulatory compliance and support on permitting and compliance with a specific emphasis on State and Federal Stormwater Regulations.						
Indicators / Measurable Accomplishments: The OEC provided support activities associated with managing compliance with the MS4 GP and other Federal and State Stormwater Regulations, and has coordinated all contracts and project management under MCM#3.				na	staff time	\$ 10,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						

Minimum Control Measure #3 "Illicit Discharge Detection & Elimination" CONTINUED

Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 3.H VTrans Operations Hazmat/Safety Coordinator Position	VTrans, VANR, other professionals.	Permit Term	Report on activities performed in support of this BMP annually.			
<p>Activity: This position was created and filled in 2006 and continues to be instrumental in providing oversight on a number of pollution prevention and good housekeeping measures (see BMP 6.F). The duties of this position support the IDDE Minimum Control Measure #3.</p> <p>Indicators / Measurable Accomplishments: VTrans generated and disposed of roughly 800 lbs of hazardous waste in the MS4 area under the supervision of this position. This waste was generated as a result of disposal of petroleum contaminated soil from a spill at the D-5 Maintenance Facility in Essex Jct.). Besides the waste oil, 22,600 lbs of lead waste was disposed off as a function of the I-89 Winooski River Bridge coating upgrade. In addition, 950 lbs of diesel fuel was recycled as a recoverable energy (fuel to fuel). This is not technically a Hazardous waste but is accountable as an inherently waste like material. Vtrans Operations has provided 8 hours of training and outreach to all District 5 Staff in the areas of Spill Prevention, Containment and Countermeasures, Spill Response and Notification Procedures, and Emergency Response.).</p> <p>BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.</p>				800 lbs of waste oil and 22,600 lbs of lead waste and 950 lbs of diesel fuel recycled. 20 hours of training provided to MS4 District staff.	staff time plus collection and disposal costs	\$ 60,000

Minimum Control Measure #4 "Construction Site Runoff Control"						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 4.A Construction General Permit & Individual Permit Compliance	VTrans Construction Environmental Engineers, Resident Engineers, Contractors and Project Managers, District Maintenance Staff.	Annual review of BMP will be performed for Permit Term	A list of VTrans projects under construction that had coverage under Construction General Permit or an Individual Permit will be reported annually.			
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 / Measurable Accomplishments: VTrans continues to comply, and requiring 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. VTrans projects in the MS4 area under construction during 2010 having coverage under an Individual or General Permit-3-9020 for Construction include: NONE. Those with coverage under Low Risk under CGP 3-9020 include: TWO. We did not have any other projects in the MS4 that had Construction Permits or SP 652. South Burlington IM SCRIP (3) [3-9020 Low Risk] Winooski NH 089-3(65) [3-9020 Low Risk]				2 projects with INDV or CGP coverage under construction in 2010.	costs are spread agency wide and are difficult to break out as they include multiple VTrans staff, construction companies and consultants covering permitting through construction	\$ 100,000
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 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 VTrans Environmental Section Webpage. ONE project was under construction in 2010 for which this protocol was applied: Richmond Williston IM CULV (16) [VTrans EPSC Protocol]						
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 4.B VTrans Construction Environmental Engineer (CEE) and Assistant CEE Positions	VTrans, Consultants, Contractors.	Ongoing through the Permit Term.	Report on activities performed in support of this BMP annually.			
Activity: The CEE and ACEE worked to ensure VTrans compliance with the Construction General Permits or Individual Permits, reviewed and updated construction erosion control details and specifications (BMP 4.C), provided training (BMP 4.E) for VTrans Staff Statewide, Consultants and Contractors, and conducted construction site assurance visits (BMP 4.D).						
Indicators / Measurable Accomplishments: The CEE leads an EPSC Working Group that meets quarterly to discuss ongoing compliance under this Minimum Control Measure. Ongoing activities can be found on the VTrans Construction Web Site at http://www.aot.state.vt.us/progdev/Sections/Construction/construct.htm and on the Environmental Stormwater Web Site at http://www.aot.state.vt.us/TechServices/EnvPermit/Stormwater04.htm . Also see related MCM#4 BMPs for more information.				na	staff time on this BMP in addition to other costs noted under other MCMs/BMPs. This \$ covers most other BMPs under MCM#4	\$ 10,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 4.C Erosion Prevention & Sediment Control Guidance Materials	VTrans, primarily targeted at construction and maintenance.	Review and update for Permit Term.	A summary update of Standards, Procedures, and Handbooks will be included in the annual report.			
Activity: No updates/revisions to 2007 EPSC Protocol. An Alternative EPSC Plan Process (on that is being studied for projects disturbing less than 1 acre) was implemented and evaluated for its second of a three year trial. Special Provisions for Project Demarcation Fence and Barrier Fence were drafted. Both were created to eliminate reliance on the Approved Product List. Instead the acceptance of the product is left up to the RE based on the revised language.						
Indicators / Measurable Accomplishments: None to report				None	see BMP 4.B	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 4.D Erosion Prevention & Sediment Control Assurance Visits	VTrans, Consultants, Contractors	Ongoing for Permit Term.	The annual report that is required under Part 5.3 of the Permit will track frequency of visits, provide summary of information gathered, and corrective actions taken.			
Activity: This BMP has evolved with the hiring of the VTrans Construction Environmental Engineer and Assistant Construction Environmental Engineer (refer to BMP 4.B). 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 / Measurable Accomplishments: 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 6 projects under construction totalling 18 inspections.				# 18 inspections	staff time	\$ 5,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						

Minimum Control Measure #4 "Construction Site Runoff Control" CONTINUED						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 4.E Stormwater Management - Erosion Prevention & Sediment Control Training	VTrans, Contractors, Consultants, and other professionals.	A broad offering of training classes will continue to be scheduled throughout each year for the Permit Term.	Class titles and number of VTrans employees and other attendees will be reported annually.			
<p>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.</p> <p>Indicators / Measurable Accomplishments: Estimated total of 636 training hours (hours x participants).</p> <p>+ Spring Meeting was the only formal training event held in 2010. Jonathan Armstrong attended to speak about Stormwater Opportunities for Improvement; options for improving stormwater runoff without changing any permits or adding costs to the projects. There was approximately 70 attendees and the topic was approximately 2 hours (140 training hours)</p> <p>+ Three Regional Closeout meetings were held in December (and one in January 2011). These are informal education/feedback sessions. Bill and Andrea talked with approximately 70 Resident Engineers for approximately 1/2 hour (35 training hours)</p> <p>+ In February 2010 members of the VTrans Environmental Unit, Rail Sections, and Construction Environmental met to provide a better understanding as to how the Environmental Section works, inform the Rail Section of who is responsible for the different sections of Environmental, and to better understand how the Environmental Review may impact rail projects and schedules. Bill and I spoke on the VTrans EPSC Protocol. There were approximately 6 attendees from Rail and our topic lasted for approximately 1/2 hour (3 training hours)</p> <p>+ Bill and Andrea attended a NE IECA Sponsored Field Day in Concord, NH in July. It was a full day event. In addition Bill and Andrea met with peers at NH DOT for a field tour of their I-93 construction project as well as to discuss with them their approach to permit compliance in NH (16 training hours)</p> <p>+ Bill attended the 2010 Northeast Chapter IECA Annual Conference in November (16 training hours)</p> <p>+ Compost workshop at VTrans (31 staff) 3hrs (63 training hours)</p> <p>+ Compost workshop at VT local rds (15 staff) 3hrs (45 training hours)</p>				636 training hours	staff time	\$ 25,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 4.F Certified Professionals in Erosion and Sediment Control (CPESC) and Certified Professionals in Stormwater Quality (CPSWQ)	VTrans Staff.	VTrans will continue to support the training of the current CPESCs/CPSWQ's and will support CPESC/CPSWQ training for other qualified employees.	The number of CPESC's and CPSWQ's along with an activities summary of the VTrans CPESCs/CPSWQs will be reported annually..			
<p>Activity: Certified Professionals in Erosion and Sediment Control (CPESC) and Certified Professionals in Stormwater Quality (CPSWQ) is an internationally recognized professional certification in the stormwater management field http://www.cpesc.net/. VTrans employees paid for annual dues to maintain CPESCs and CPSWQs and VTrans provided opportunities for others interested in pursuing CPESC or CPSWQ training and certification. The membership provides access to up-to-date information on erosion prevention and sediment control, Stormwater Quality, and training opportunities.</p>						
<p>Indicators / Measurable Accomplishments: VTrans has 3 CPESCS and 0 CPSWQ.</p> <p>BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.</p>				3 CPESCS and 0 CPSWQ	VTrans no longer pays	\$ -
BMP 4.G Reporting Erosion Prevention and Sediment Control Noncompliance for Non-VTrans Projects	VTrans, MS4 Communities, VANR.	Ongoing for the Permit Term.	VTrans activities relative to this BMP, including number of alleged violations reported to ANR, will be reported annually.			
<p>Activity: VTrans is using the existing VTrans Access Management Program, Highway Permits, and Development Agreements (Title 19 Section 1111 Permit) to Manage EPSC Activities of non-VTrans Projects that need access to our right-of-way. The Section 1111 Permit Standard Conditions was updated during the 2003-2008 Permit Term and resulted in the writing and adopting of Stormwater Conditions for all VTrans Access Permits. These conditions improve VTrans' control over discharge into the VTrans MS4s of stormwater generated by non-VTrans property owners. This implementation has been done Statewide. The condition also better informs the applicants and others of the responsibilities and requirements for managing stormwater.</p> <p>VTrans Maintenance District personnel responsible for the State Highways in the Phase 2 Communities, have been educated on the importance of identifying EPSC problems suspected to originate outside of the VTrans right-of-way. This stormwater may originate from non-VTrans property, causing a nuisance by discharging eroding material and sediment in stormwater runoff from non-VTrans projects into the VTrans Stormwater Management System. All reports of alleged non-compliance will be made by the DTA or the OEC directly to ANR Enforcement Division.</p>						
<p>Indicators / Measurable Accomplishments: None reported. There were no non-VTrans projects that contributed to non-compliance in the vicinity of VTrans projects within the MS4. This may be a better question for the Districts. There were also no alleged violations on VTrans projects within the MS4.</p> <p>BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.</p>				none reported	na	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						

Minimum Control Measure #4 "Construction Site Runoff Control" CONTINUED

Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 4.H Erosion Prevention and Sediment Control Review Protocol for VTrans Construction Projects - both jurisdictional and non-jurisdictional under GP-3-9020(2008)	VTrans Program Development Project Managers, Designers, Environmental Specialists, Consultants, and Contractors.	Ongoing for the Permit Term. Policy will be reviewed for efficiency annually.	A list of VTrans projects in the MS4 that had coverage under Construction General Permit or an Individual Permit along with a total number of projects that are under the 1 acre land disturbance threshold (not requiring CGP-3-9020 coverage) but fall under the VTrans 2006 EPSC Protocol for "non-jurisdictional" projects will be reported annually.			
<p>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 New 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.</p>						
<p>Indicators / Measurable Accomplishments: VTrans continues to comply, and requiring 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. VTrans projects in the MS4 area under construction during 2010 having coverage under an Individual or General Permit-3-9020 for Construction include: NONE. Those with coverage under Low Risk under CGP 3-9020 include: TWO. We did not have any other projects in the MS4 that had Construction Permits or SP 652. South Burlington IM SCRP (3) [3-9020 Low Risk] Winooski NH 089-3(65) [3-9020 Low Risk]</p> <p>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 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 VTrans Environmental Section Webpage. ONE project was under construction in 2010 for which this protocol was applied: Richmond Williston IM CULV (16) [VTrans EPSC Protocol]</p>				1 project with VTrans EPSC Protocol Coverage	costs are spread agency wide and are difficult to break out	\$ 4,000
<p>BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.</p>						
BMP 4.I VTrans Operations Environmental Coordinator Position	Public, VTrans, MS4 Communities, Federal and State Regulatory Agencies, other professionals	Permit Term	Report on activities performed in support of this BMP annually.			
<p>Activity: The former VTrans Environmental Coordinator position was transferred from the VTrans Program Development-Environmental Section to the VTrans Operations Division and the Operations Environmental Coordinator (OEC) position was filled in November 2007. The primary duty of the OEC is to provide regulatory compliance and support on permitting and compliance with a specific emphasis on State and Federal Stormwater Regulations.</p>						
<p>Indicators / Measurable Accomplishments: The OEC provided support activities associated with managing compliance with the MS4 GP and other Federal and State Stormwater Regulations. The OEC also worked with District Staff on Water Quality Enhancement Projects focused on reducing sediment load to receiving waters by stabilizing roadside gullies and other related activities. The total cost for any maintenance work completed which corrected roadside gullies, outfall erosion, or other sources of erosion causing sediment to enter waterways in the VTrans MS4 coverage area included:</p> <p>2 erosion issues resolved US 7 Colchester Sunny Hollow: Colchester Sunderland Brook = \$ 3,818.80 Colchester Top of Sunny Hollow = \$34,626.39</p>				Coordinated and funded 2 sites for corrective action regarding EPSC	staff time to coordinate plus project costs.	\$ 45,000
<p>BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.</p>						

Minimum Control Measure #5 "Post Construction Stormwater Management"						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 5.A Maintain Compliance for Post-Construction Stormwater Management	VTrans Project Designers and design consultants.	Ongoing for the Permit Term.	A list of VTrans projects that complied with the GP-3-9015 or Individual Permit or that followed the internal VTrans procedure for projects not subject to these permits will be reported annually.			
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 / Measurable Accomplishments: Operational Stormwater Permits for ESSEX TOWN STP 5400(5) . All other non-jurisdictional projects followed this internal procedure.				One project permitted.	costs are spread agency wide and are difficult to break out	\$ 20,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 5.B VTrans Stormwater Engineer Position	VTrans, and other professionals.	The responsibilities of this position are ongoing for the Permit Term.	A summary of this employee's activities in support of this BMP will be reported annually.			
Activity: The VTrans Stormwater Management Engineer's primary duty is to provide engineering support on the design and retrofitting of VTrans stormwater management systems. The tasks related to this duty include but are not limited to: Stormwater management system engineering assistance to VTrans project managers, designers, and others; Review of stormwater management system plans of projects that have been developed both in house and by consultants as part of the environmental permitting process; Design stormwater management systems for VTrans projects; Assist in VTrans compliance with state issued General Permit 3-9010, General Permit 3-9015, National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) General Permit, and other permits that involve long-term stormwater management; Assist VTrans on changes in design and treatment needs for long-term stormwater management systems.						
Indicators / Measurable Accomplishments: The activities of this position support other BMPs under the VTrans SWMP [refer to other BMPs for more information]. VTrans continues to work under the "VTrans Project Post Construction (Operational) Stormwater Protocol", a guidance document compiled with input Agency wide and intended to facilitate the typical Program Development Projects' stormwater processes during the various stages of project development carrying forward into operation and maintenance. The Stormwater Management Engineer lead this effort and the Protocol was adopted in December 2008.				na	Env'l SW Eng. Time	\$ 35,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 5.C Stormwater Management - Erosion Prevention & Sediment Control Training	VTrans, Contractors, Consultants, and other professionals.	A broad offering of training classes will continue to be scheduled throughout each year for the Permit Term.	Class titles and number of VTrans employees and other attendees will be reported annually.			
Activity: [see BMP 4.E]						
Indicators / Measurable Accomplishments: [see BMP 4.E] In addition, the following Stormwater Mangament Trainings were provided: Montpelier conservation commission presentation about alternative deicing methods (1 staff) 1 hr (1 training hour) WMS Webinar (4 staff) 3 hrs (12 training hours) EPA Stormwater rulemaking webcast (3 staff) 4hrs (12 training hours) Climate Change Webinar (4 staff) 3hrs (12 training hours) AASHTO DOT Stormwater practitioners conference (2 staff) 4days (80 training hours) USGS Presentation of salt study findings (10 staff) 2hrs (20 training hours) MS4 Municipal Employees workshop (16 staff) 2hrs (32 training hours) NRCS Extreme Precipitation workshop (2 staff) 7hrs (14 training hours) MS4 educational series (2staff) 8hrs (16 training hours)				See BMP 4.E plus and additional 221 Stormwater related training hours.	see BMP 4.E plus additional costs associated with Stormwater related trainings	\$ 15,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 5.D Report Noncompliance for Non-VTrans Projects	VTrans, MS4 Communities, VANR.	Ongoing for the Permit Term.	A summary of VTrans activities relative to this BMP, including number of alleged violations reported to ANR, will be reported annually.			
Activity: VTrans is using the existing VTrans Access Management Program, Highway Permits, and Development Agreements (Title 19 Section 1111 Permit) to Manage Post-Construction Stormwater Activities of non-VTrans Projects that need access to our right-of-way. The Section 1111 Permit Standard Conditions was updated during the 2003-2008 Permit Term and resulted in the writing and adopting of Stormwater Conditions for all VTrans Access Permits. These conditions improve VTrans' control over discharge into the VTrans MS4s of stormwater generated by non-VTrans property owners. This implementation has been done Statewide. The condition also better informs the applicants and others of the responsibilities and requirements for managing stormwater. VTrans uses its Construction Environmental Engineer (CEE) and Assistant Construction Environmental Engineer (ACEE) Positions (see BMP 4.B) and Stormwater Engineer Position (BMP 5.B) to ensure compliance. While on-site or traveling through the State, they are in a position to report suspect activity in or near VTrans right-of-way for enforcement or suggest corrective action on the spot. VTrans Maintenance District personnel responsible for the State Highways in the Phase 2 Communities, are educated on the importance of identifying suspect stormwater flowing into our right-of-way.						
Indicators / Measurable Accomplishments: None Reported				na	na	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						

Minimum Control Measure #5 "Post Construction Stormwater Management" CONTINUED						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 5.E Title 19, Section 1111 Permitting	VTrans, MS4 Communities, VANR, Commercial and Residential Development, Public, other professionals.	Ongoing for the Permit Term.	The VTrans Access Management Program, Highway Permits, and Development Agreements (Title 19 Section 1111 Permit) require a permit be issued to a non-VTrans property owner if they wish to divert stormwater flow into the VTrans right-of-way. A summary of the number of Section 1111 permits issued for legal stormwater connections to the VTrans right-of-way, and the number of illicit discharge enforcement actions taken or forwarded to the MS4 Municipality or VANR, along with an effectiveness statement of this BMP will be reported annually.			
<p>Activity: VTrans is using the existing VTrans Access Management Program, Highway Permits, and Development Agreements (Title 19 Section 1111 Permit) to Manage Post-Construction Stormwater Activities of non-VTrans Projects that need access to our right-of-way. The Section 1111 Permit Standard Conditions was updated during the 2003-2008 Permit Term and resulted in the writing and adopting of Stormwater Conditions for all VTrans Access Permits. These conditions improve VTrans' control over discharge into the VTrans MS4s of stormwater generated by non-VTrans property owners. This implementation has been done Statewide. The condition also better informs the applicants and others of the responsibilities and requirements for managing stormwater.</p> <p>VTrans also uses the Section 1111 Permit process to ensure that there is no increase in peak discharge at the design storm event from pre to post construction conditions prior to issuing the Section 1111.</p>						
Indicators / Measurable Accomplishments: ONE (COLCHESTER CAMPUS CONNECTOR) Section 1111 Permits was issued for Stormwater Connections within MS4 Jurisdiction with no increased flow to the ROW.				One Section 1111 for Stormwater issued	staff time for Ut & Per and others reviewing	\$ 5,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 5.F VTrans Operations Environmental Coordinator Position	Public, VTrans, MS4 Communities, Federal and State Regulatory Agencies, other professionals	Permit Term	Report on activities performed in support of this BMP annually.			
<p>Activity: The former VTrans Environmental Coordinator position was transferred from the VTrans Program Development-Environmental Section to the VTrans Operations Division and the Operations Environmental Coordinator (OEC) position was filled in November 2007. The primary duty of the OEC is to provide regulatory compliance and support on permitting and compliance with a specific emphasis on State and Federal Stormwater Regulations.</p>						
Indicators / Measurable Accomplishments: The OEC provided support activities associated with managing compliance with the 9010/9015 SWDP Program, MS4 GP and other Federal and State Stormwater Regulations. A considerable portion of time is spent on reviewing new construction projects by VTrans and by Non-VTrans entities and making sure each project does not affect compliance with post construction stormwater permitting program or the requirements of other federal and state stormwater permitting programs. The OEC also reviews and comments on Title 19, Section 1111 Permit Applications for impacts to the VTrans Stormwater System and for compliance under MS4.				Managed compliance activities for 4 permitted/constructed projects under the State Stormwater Discharge Program (9010/9015/INDV) within MS4	staff time	\$ 10,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						

Minimum Control Measure #6 "Pollution Prevention & Good Housekeeping"						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 6.A Enhance VTrans MS4 related Maintenance & Best Management Activities	VTrans Operations Division and District Maintenance Staff.	Enhancements of MS4 related maintenance activities, BMPs, policy, and procedures are an ongoing activity and will continue through the Permit Term. Maintenance and servicing infrastructure (ie. catch basin cleaning and street sweeping) in the VTrans MS4 performed annually.	VTrans will submit a summary annual report as is required under Part 5.3 of the Permit. This report will include a list of the enhancements put in practice in support of this BMP. VTrans will also provide what data it can to quantify its actions under this BMP including, at a minimum, the number of catch basins cleaned and roadway miles swept in the VTrans MS4 annually. The data will more likely represent quantities by MS4 Municipal Jurisdictional boundaries than by VTrans MS4 limits. VTrans will do its best to refine the data provided, to the extent practicable, to represent the VTrans MS4 area.			
Activity: VTrans continued with this ongoing effort. See Indicators & Accomplishments.						
Indicators / Measurable Accomplishments:				Catch Basins		
Cleaned both # of basins and cubic yards of material collected in the VTrans MS4 coverage area = Cleaned 40 basins or 1 c.y. Street Sweeping both # lane miles and cubic yards of material collected in the VTrans MS4 coverage area = 0 lane miles or 0 c.y. Green-up # tons of trash disposed of all of in the VTrans MS4 coverage area = 8 tons. Hazardous Waste Disposed of in # tons including all of D-5 sites in Chittenden County. VTrans generated and disposed of roughly 800 lbs of hazardous waste in the MS4 area under the supervision of this position. This waste was generated as a result of disposal of petroleum contaminated soil from a spill at the D-5 Maintenance Facility in Essex Jct.). Besides the waste oil, 22,600 lbs of lead waste was disposed off as a function of the I-89 Winooski River Bridge coating upgrade. In addition, 950 lbs of diesel fuel was recycled as a recoverable energy (fuel to fuel). This is not technically a Hazardous waste but is accountable as an inherently waste like material See BMP 3.H). # of VTrans Culvert Outfalls Inspected/Surveyed in the VTrans MS4 coverage area = 40 inspected as part of IDDE (see BMP 3.B) # of VTrans Catch Basins (Drop Inlets) Inspected in the VTrans MS4 coverage area = District Forces inspected 40 Structures in MS4. The VTrans Roadway Assesment Management Unit inspected 0 DIs in the VTrans MS4. Best Management Documents developed and adopted include: NONE. Initiated and working on a highway specific BMP research project that should be completed in 2012.				CBs Cleaned = 40/ 1 cy Street Sweeping = 0 miles / 0 cy Trash removal = 8 tons Disposal = see BMP 3.H inspected = see BMP 3.B inspected = 40 adopted = none	District and staff time - some costs carried under BMP 3.B	\$ 200,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 6.B Erosion Prevention & Sediment Control Guidance Materials	VTrans, primarily targeted at construction and maintenance.	Review and update for Permit Term.	A summary update of Standards, Procedures, and Handbooks will be included in the annual report.			
Activity: None to report						
Indicators / Measurable Accomplishments: None to report				none to report	na	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 6.C Erosion Prevention & Sediment Control Assurance Visits	VTrans, Consultants, Contractors	Ongoing for Permit Term.	The annual report that is required under Part 5.3 of the Permit will track frequency of visits, provide summary of information gathered, and corrective actions taken.			
Activity: [see BMP 4D]						
Indicators / Measurable Accomplishments: [see BMP 4.D]				see BMP 4.D	See BMP 4.E	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 6.D Stormwater Management - Erosion Prevention & Sediment Control Training	VTrans, Contractors, Consultants, and other professionals.	A broad offering of training classes will continue to be scheduled throughout each year for the Permit Term.	Class titles and number of VTrans employees and other attendees will be reported annually.			
Activity: [see BMP 4.E and 5.C]						
Indicators / Measurable Accomplishments: [see BMP 4.E and 5.C].				See BMP 4.E plus BMP 5.C	see BMP 4.E plus 5.C	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						

Minimum Control Measure #6 "Pollution Prevention & Good Housekeeping" CONTINUED						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
BMP 6.E VTrans Compliance Plan with GP-3-9003 Multi-Sector General Permit	VTrans District 5.	Inspections and EAO Audits will be conducted annually for the Permit Term.	VTrans will conduct an internal annual inspection and audit of the Colchester Fort Ethan Allen District Maintenance Facility in order to keep its non-regulatory SWMP/SPPP up to date and operations at this facility free of deficiencies. At a minimum, to meet the requirements under Minimum Control Measure #6, VTrans will also conduct one inspection and audit at this facility with the VANR Environmental Assistance Office. A summary of Pollution Prevention and Good Housekeeping activities and inspection/audit results will be reported in each annual report that is required under Part 5.3 of the Permit.			
Activity: The Multi-Sector General Permit 3-9003 (MSGP) for Stormwater Discharges Associated with Industrial Activity was issued by ANR Aug 18, 2006. Exempt from coverage under the MSGP are facilities classified as Municipal and Highway Garages. In the VTrans MS4 area, the District 5 Maintenance Facility in Colchester does not require MSGP coverage; however, VTrans has developed Stormwater Management Plan/Pollution Prevention Plan (SWMP/SWPPP) for this facility. It is up to date and undergoing periodic inspections and audits supervised by the VANR Environmental Assistance Office (EAO). The last EAO supervised audit was conducted on July 15, 2010. This program is managed by the VTrans Operations Hazardous Materials/Safety Coordinator Position (refer to BMP 6.F for more information). The VTrans Operations Hazmat/Safety Coordinator position was created and filled in 2006 and continues to be instrumental in providing oversight on a number of pollution prevention and good housekeeping measures including trainings, prepared Stormwater Management Plans and Pollution Prevention Plans. This position was part of the Stormwater Work Group (SWWG) and was focused heavily on pollution prevention and stormwater management in the VTrans MS4.						
Indicators / Measurable Accomplishments: The last EAO inspection was conducted on July 15, 2010 (see Attachment B).				Attachment B	staff time	\$ 1,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 6.F VTrans Operations Hazmat/Safety Coordinator Position	VTrans, VANR, other professionals.	Permit Term	Report on activities performed in support of this BMP annually.			
Activity: This position was created and filled in 2006 and continues to be instrumental in providing oversight on a number of pollution prevention and good housekeeping measures (see BMP 6.F). The duties of this position support the IDDE Minimum Control Measure #3.						
Indicators / Measurable Accomplishments: VTrans generated and disposed of roughly 800 lbs of hazardous waste in the MS4 area under the supervision of this position. This waste was generated as a result of disposal of petroleum contaminated soil from a spill at the D-5 Maintenance Facility in Essex Jct.). Besides the waste oil, 22,600 lbs of lead waste was disposed off as a function of the I-89 Winooski River Bridge coating upgrade. In addition, 950 lbs of diesel fuel was recycled as a recoverable energy (fuel to fuel). This is not technically a Hazardous waste but is accountable as an inherently waste like material. VTrans Operations has provided 8 hours of training and outreach to all District 5 Staff in the areas of Spill Prevention, Containment and Countermeasures, Spill Response and Notification Procedures, and Emergency Response. In addition, this position provides support and coordination for HazMat spill response and reporting. The # of spills responded to and/or reported in the VTrans MS4 coverage area based on the ANR WSID web site allows use to track all reported spills by town. Of the MS4 towns listed there were 6 spill within the VTrans ROW or at VTrans facilities. Milton 2, Colchester 1, Williston 1, S. Burlington 2. All spills were resolved to ANRs satisfaction. Also, this position is directly responsible for efforts underway to reduce underground storage tanks. As of the end of 2010, D5 does not have any underground diesel tanks operational. D5 also gave up two 4,000 gallon aboveground tanks which were relocated to other facilities throughout the state.				As reported under BMP 3.H - 800 lbs of waste oil and 22,600 lbs of lead waste and 950 lbs of diesel fuel recycled. 20 hours of training provided to MS4 District staff. In addition VTrans responded to 6 HazMat spills and achieved removal of all underground storage tanks.	see BMP 3.H	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 6.G VTrans Operations Environmental Coordinator Position	Public, VTrans, MS4 Communities, Federal and State Regulatory Agencies, other professionals	Permit Term	Report on activities performed in support of this BMP annually.			
Activity: The former VTrans Environmental Coordinator position was transferred from the VTrans Program Development-Environmental Section to the VTrans Operations Division and the Operations Environmental Coordinator (OEC) position was filled in November 2007. The primary duty of the OEC is to provide regulatory compliance and support on permitting and compliance with a specific emphasis on State and Federal Stormwater Regulations.						
Indicators / Measurable Accomplishments: The OEC provided support activities associated with managing compliance with the MS4 GP and other Federal and State Stormwater Regulations. The OEC works with the Districts, HazMat Coordinator and Vegetation Management Coordinator to facilitate efforts under MCM#6.				ongoing efforts under MCM #6 reported under each BMP.	staff time	\$ 10,000
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
BMP 6.H Use Title 19, Section 1111 Permitting	VTrans, MS4 Communities, VANR, Commercial and Residential Development, Public, other professionals.	Ongoing for the Permit Term.	The VTrans Access Management Program, Highway Permits, and Development Agreements (Title 19 Section 1111 Permit) require a permit be issued to a non-VTrans property owner if they wish to divert stormwater flow into the VTrans right-of-way. A summary of the number of Section 1111 permits issued for legal stormwater connections to the VTrans right-of-way, and the number of illicit discharge enforcement actions taken or forwarded to the MS4 Municipality or VANR, along with an effectiveness statement of this BMP will be reported annually.			
Activity: VTrans is using the existing VTrans Access Management Program, Highway Permits, and Development Agreements (Title 19 Section 1111 Permit) to Manage Post-Construction Stormwater Activities of non-VTrans Projects that need access to our right-of-way. The Section 1111 Permit Standard Conditions was updated during the 2003-2008 Permit Term and resulted in the writing and adopting of Stormwater Conditions for all VTrans Access Permits. These conditions improve VTrans' control over discharge into the VTrans MS4s of stormwater generated by non-VTrans property owners. This implementation has been done Statewide. The condition also better informs the applicants and others of the responsibilities and requirements for managing stormwater. VTrans also uses the Section 1111 Permit process to ensure that there is no increase in peak discharge at the design storm event from pre to post construction conditions prior to issuing the Section 1111.						
Indicators / Measurable Accomplishments: See BMP 5.E				see BMP 5.E	see BMP 5.E	\$ -
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						

Additional Best Management Practices under Minimum Control Measure #6 "Pollution Prevention & Good Housekeeping" CONTINUED						
Minimum Control Measure and BMP	Target Audience	Timeframe	Measurable Goal(s)	Reportable Indicators	Cost Notes	Estimated Expenditures
ADDITIONAL MEASURES IMPLEMENTED						
MOVE BMP 2.A VTrans Stormwater Steering Committee (SWSC) (formerly Stormwater Advisory Group) UNDER MCM #6	VTrans Staff	The SWSC meets on a quarterly basis (at a minimum) and more frequently as the need arises.	General discussion of topics			
Activity: VTrans SWSC met to discuss MS4 SWMP development and to disseminate information about stormwater regulations, permit programs, policy & procedures, and BMPs through VTrans. This advances integration of the BMPs into design of transportation projects, the acquisition of environmental permits, operation and maintenance activities, and transportation planning						
Indicators / Measurable Accomplishments: The SWSC meets quarterly in order to respond to policy and planning needs, rule review, legislative actions, and to disseminate information about stormwater regulations, permit programs, policy and procedures within VTrans.				na	staff time	\$ 5,000
BMP Effectiveness: This BMP has proven to be non-effective in addressing Public Involvement & Participation. It has however proven to be very effective as a Good Housekeeping BMP and will be continued thru the remainder of the Permit Term under its current form but will be moved to MCM#6.						
BMP Activities related to Lake Champlain Phosphorus TMDL						
	VTrans Staff	ongoing	Report all relevant activities not listed above under MCM #1 thru #6.			
Activity: Sand reduction, phosphorus reduction and roadside bank stabilization projects including riparian corridor restoration/bank stabilization/buffer enhancement						
Indicators / Measurable Accomplishments: VTrans highway traction sand use = NONE in Chittenden County; Slope/Ditch repair work at 2 sites (see BMP 4.I). 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 hydroseed using a liquid 19-19-19 fertilizer. No effort is under way to reduce phosphorous use. No effort has been made to determine if it is being misused. Training for turf establishment is recommended. Emphasis could be placed on the consequences of over fertilizing either with nitrogen or phosphorous, particularly in MS-4 areas. Low or non phosphorous fertilizers could be used in sensitive areas. Soil samples could be taken to lessen the need for fertilizers. MORE WORK REGARDING FERTILIZER WILL BE UNDERWAY IN 2011. Riparian Corridor Restoration/Bank Stabilization/Buffer Enhancement: conducted field assessments of riparian restoration projects within the State right-of-way. A list of projects will be coordinated for 2011 implementation. This effort is managed by the VTrans Vegetation Management Coordinator.				traction sand reduction = ZERO cy. We do not have quantities for the 2 slope/ditch projects.	staff time and resources in support of this BMP are carried here. Project costs (\$40,000) for side slope projects are covered under BMP 4.I	\$ 40,000
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.						
BMP Activities related to Herbicide Use						
	VTrans Staff	ongoing	Report all relevant activities not listed above under MCM #1 thru #6.			
Activity: Manage and reduce Herbicide use, provide appropriate training, certifications, license and permits.						
Indicators / Measurable Accomplishments: Herbicide Use				minimal herbicide use reported.	staff time to manage and apply	\$ 20,000
	Town	OUST XP (ounces)	Roundup (gallons)			
	S. Burlington	19.5	6.5			
	Colchester	30.0	10.0			
	Williston	3.0	1.0			
BMP Effectiveness: This BMP has proven to be very effective and will be continued thru the remainder of the Permit Term.						
		Misc MS4 Support	PDD E-Specialists, Hydraulics, Designers, Consultants, etc..... And OPS Vegetation Management (Riparian Restoration Efforts)		Estimated staff time (not included above) across the Agency supporting MS4 efforts (lum sum)	\$ 100,000
					Total Estimate Expenditures for 2010 Calendar Year	\$ 1,079,500