

Vermont Agency of Transportation (VTrans)
 Transportation Separate Storm Sewer System (TS4)
 Stormwater Management Program (SWMP)
 Annual Report Workbook
 2019

TAB 4.0: Discharge Requirements Annual Reporting

Waterbody Name	Pollutant	TMDL (Yes/No)	Vtrans/TS4 Allocation (Yes/No)	Measure No.	Measure Description (General)	Annual Report Measure Detail	Progress Towards Meeting Measure (2019)
4.1 Measures and Progress for Discharges to Impaired Waters With an Approved TMDL With Wasteload Allocation							
LAKE MEMPHRAMAGOG (Newport)	PHOSPHORUS	Yes	Yes	18	PCP development and implementation beginning in 2022; VTrans will implement MCM #1 and #6 (SWMP Parts 6.A and 6.F)	Progress towards PCP development and implementation beginning in 2022	In 2019, data collection began for PCP development. Additionally, 2 culverts were replaced and 5 erosion control and/or stabilization projects occurred in the watershed.
4.2 Measures and Progress for Discharges to Impaired Waters With an Approved TMDL Without Wasteload Allocation							
LAKE CARM (Franklin)	PHOSPHORUS	Yes	No	16	No VTrans allocation, VTrans will implement MCM #1 and #6 (SWMP Parts 6.A and 6.F). Inspect hydrologically connected road segments if any, stabilize visible erosion, report progress annually. Primary impairment source is agricultural runoff.	Inspect hydrologically connected road segments, stabilize visible erosion	Inspections for gully erosion occurred in this watershed. VTrans is currently working with DEC and the Town of Franklin to implement a project as part of the Lake Carmi Crisis Response Plan.
4.3 Measures and Progress for Discharges to Impaired Waters Without an Approved TMDL							
MUDDY BROOK	CHLORIDE	No	No	2	MCM #1 and #6 (SWMP Parts 6.A and 6.F); VAOT Snow and Ice Control Plan (SIC Plan); annual reporting on chloride usage within impaired watersheds. VTrans owns and controls approximately 9% of total impervious cover in Muddy Brook watershed and 14% of total impervious cover in Sunnyside Brook watershed.	Chloride usage within impaired watershed	Watershed specific data was not available for this report, the agency is working on developing that for the 2020 report. See reporting for section f.3.b for statewide usage. Additionally, starting with this report the agency will be reporting chloride usage for the the winter season, this years report will encompass fall 2018 to spring 2019.
SUNNYSIDE BROOK	CHLORIDE	No	No	2		Chloride usage within impaired watershed	
JEWETT BROOK	NUTRIENTS, SEDIMENT, E. COLI	No	No	14	VTrans will implement MCM #1, #3, and #6 (SWMP Parts 6.A, 6.C, and 6.F). Inspect hydrologically connected road segments, stabilize visible erosion, report progress annually. Primary impairment source is agricultural runoff.	Inspect hydrologically connected road segments, stabilize visible erosion	Inspections for gully erosion occurred in this watershed.
RUGG BROOK	NUTRIENTS, SEDIMENT, E. COLI	No	No	14		Inspect hydrologically connected road segments, stabilize visible erosion	Inspections for gully erosion occurred in this watershed. Median retrofit inspected.
STEVENS BROOK	NUTRIENTS, SEDIMENT, E. COLI	No	No	14		Inspect hydrologically connected road segments, stabilize visible erosion	Inspections for gully erosion occurred in this watershed. St. Albans Park and Ride gravel wetland inspected. 6765-9010 inspected and maintenance performed. St. Albans garage discharge point stone lined.

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SHELBURNE POND (Shelburne)	PHOSPHORUS	No	No	16	No VTrans allocation, VTrans will implement MCM #1 and #6 (SWMP Parts 6.A and 6.F). Inspect hydrologically connected road segments if any, stabilize visible erosion, report progress annually. Primary impairment source is agricultural runoff.	Inspect hydrologically connected road segments, stabilize visible erosion	Inspections for gully erosion occurred in this watershed.
DEER BROOK	SEDIMENT	No		20	Consider priority inclusion in PCP development and implementation (SWMP Part 9.2). VTrans owns or controls approximately 29% of total impervious cover in the Deer Brook watershed. Participate in planning/design activities, report progress annually.	Participate in planning/design activities; consider priority inclusion in PCP development and implementation	Inspection of gully erosion occurred in this watershed. Continued working with Friends of Northern Lake Champlain and Stone Environmental to develop a correction plan.
SOUTH MOUNTAIN BRANCH (TRIB # 3)	SEDIMENT	No		22	Part B - plan in place to mitigate - no specific actions required. VTrans will implement MCM #1, #3, and #6 (SWMP Parts 6.A, 6.C, and 6.F). Inspect hydrologically connected road segments, stabilize visible erosion, report progress annually. Primary impairment cause is ski area development.	Inspect hydrologically connected road segments, stabilize visible erosion	Inspections for gully erosion occurred in this watershed.
BIG SPRUCE BROOK	SEDIMENT, IRON			22		Inspect hydrologically connected road segments, stabilize visible erosion	Inspections for erosion occurred in this watershed.

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TAB 6.0: Minimum Control Measure (MCM) Annual Reporting

TS4 Annual Reporting Requirements	Enter number	Description of how requirement was met (include information from prompts)	Anticipated Schedule	Attachments	
MCM 6.A (#1): Public Education and Outreach on Stormwater Impacts					
A.1	Maintain website with locally relevant stormwater information and promote its existence and use.		VTrans maintains a website at: http://vtrans.vermont.gov/environmental-manual/permitting/stormwater	Ongoing	http://vtrans.vermont.gov/environmental-manual/permitting/stormwater
A.2	Establish one (1) additional educational kiosk or demonstration project at a public facility within the permit term.		VTrans is continuing to maintain a stormwater management demonstration site and kiosk at the St. Albans Park & Ride and the Williston I-89 Northbound Information Center. As an indication of potential exposure of visitors to educational opportunities at the Williston site, see visitor counts maintained by the Department of Buildings and General Services (BGS) at this website: http://informationcenter.vermont.gov/visitor_statistics	Ongoing	http://informationcenter.vermont.gov/visitor_statistics
A.3	Participate in the Chittenden County Regional Stormwater Education Program (RSEP).		VTrans is continuing to participate in the RSEP; see Appendix A of the annual report.	Ongoing	See Appendix A in the annual report
MCM 6.B (#2): Public Involvement and Participation					
B.1	Participate in the Chittenden County Regional Stormwater Public Involvement and Participation Program ("Stream Team").		VTrans is continuing to participate in the Stream Team; see Appendix B of the annual report.	Ongoing	See Appendix B in the annual report
MCM 6.C (#3): Illicit Discharge Detection and Elimination					
C.1	Maintain and expand MS4 mapping to include statewide storm sewer system. Verify outfall locations with field surveys outside the MS4, with a goal of verifying 3000 lane miles within the permit term.	2719 lane miles of 3000	VTrans is continuing to maintain the current MS4 mapping that was prepared under the 2003 MS4 permit and then updated to include additional MS4 areas for the 2012 MS4 permit. As resources are available, VTrans will expand this mapping to capture the statewide system. To see the current mapping visit: http://vtrans.vermont.gov/operations/technical-services/environmental/stormwater/managing/ms4gp3-9014/related	Ongoing	http://vtrans.vermont.gov/operations/technical-services/environmental/stormwater/managing/ms4gp3-9014/related
C.2	Draft and implement a policy and enforcement procedures that prohibit non-stormwater discharges.		VTrans currently relies on its Title 19 Highway Access Permitting authority to prohibit and enforce against non-stormwater discharges. VTrans continues to work with internal and external stakeholders to draft and implement a policy within the permit term. During this reporting period VTrans began developing standard operating procedures to support this work based on an illicit discharge reported last year and is planning on beginning work on a policy in the next year.	As soon as is feasible within the term of this permit given the possible need for legislative action.	
C.3	Develop a plan to conduct additional testing of outfalls for illicit discharges outside MS4 areas within the TS4. Develop a reporting and enforcement SOP to address non-stormwater discharges from outside the ROW. Indicate # of:		Vtrans has developed and implemented a reporting and enforcement SOP to address non-stormwater discharges from outside the ROW. Additionally, the agency has begun to develop a plan to conduct additional testing of outfalls for illicit discharges outside the MS4 areas.	Ongoing	
	Illicit discharges encountered or reported:	0	There were no illicit discharges encountered or reported in 2019.		
	Monitoring activities conducted:	0			

	Corrective actions taken or referrals to ANR:	0			
C.4	Develop an informational flyer for Title 19 Section 1111 permit holders to inform them of hazards associated with illegal discharges and improper disposal of waste. Indicate # of:		VTrans has worked with a consultant to prepare a flyer, it is currently in the draft stage and will be finalized in the next year.	Ongoing	
	Title 19 Section 1111 permits issued:	609			
C.5	Monitor for categories of non-stormwater discharges listed in the SWMP (MCM 6.C.5), investigate significance of each, and take appropriate enforcement action as warranted. Indicate # of:		VTrans is continuing to monitor for non-stormwater discharges to investigate them and take appropriate enforcement actions as necessary.	Ongoing	
	Non-stormwater discharges discovered:	0			
	Corrective actions taken:	0			
MCM 6.D (#4): Construction Site Stormwater Runoff Control					
D.1	Implement procedures to assure that construction activities undertaken are properly permitted and in compliance with permits. Indicate # :		VTrans is continuing to comply with the terms of their stormwater construction permits.	Ongoing	
	Projects with GP 3-9020 and/or INDC coverage:	31			
D.2	Review existing policies for effectiveness in managing construction-related EPSC and controlling wastes, and make changes as needed.		VTrans continues to review existing policies and their effectiveness. This year, VTrans completed an evaluation of the process that a project with stormwater considerations goes through within VTrans, based on this the agency made some changes to the process to improve it's effectiveness and efficiency. Additionally, "VTrans EPSC Protocol was revised July 2019.	Ongoing	https://vtrans.vermont.gov/sites/aot/files/highway/documents/environmental/VTrans%20EPSC%20Protocol%202019.pdf
D.3	Review existing policies for consistency with ANR general permits for stormwater runoff from large and small construction sites and construction EPSC guidelines for low-impact development.		VTrans continues to review existing policies and their effectiveness. This year, VTrans completed an evaluation of the process that a project with stormwater considerations goes through within VTrans, based on this the agency made some changes to the process to improve it's effectiveness and efficiency. Additionally, "VTrans EPSC Protocol was revised July 2019.	Ongoing	https://vtrans.vermont.gov/sites/aot/files/highway/documents/environmental/VTrans%20EPSC%20Protocol%202019.pdf
D.4	Implement a plan that addresses stormwater runoff from construction activities that are not subject to state or federal EPSC requirements. Indicate # of:		VTrans is continuing to implement the "VTrans EPSC Protocol" (revised July 2019), which contains guidelines for: (1) creating and implementing EPSC Plans that meet the requirements of GP 3-9020, and (2) projects disturbing less than one acre with any potential to impact resources.	Ongoing	
	Number of projects following the "VTrans EPSC Protocol":	54	All projects follow the EPSC protocol. 54 projects, this does not include paving, line striping, rumble strip or sign projects that all follow the ANR Low Risk Site Handbook if needed.		
D.5	Conduct environmental compliance site visits to projects that are under construction to review implementation of the EPSC Plan and compliance with environmental permit conditions. Indicate # of:		VTrans is continuing to conduct environmental compliance site visits to projects that are under construction to assess installation of EPSC measures, protection of natural resources, and compliance with state and federal regulations.		

	Number of environmental compliance sites visits:	127			
D.6	Conduct and attend construction-phase stormwater management / EPSC training.		See Tab 6.1 for a list of trainings that VTrans has conducted and/or attended.	Ongoing	
MCM 6.E (#5): Post Construction Stormwater Management for New Development and Redevelopment					
E.1.a	Update the "VTrans Project Post-Construction (Operational) Stormwater Protocol" in the first two years of the permit term.		Vtrans is working on updating the protocol, after completing a LEAN event on the stormwater process, this year staff began working on updating the protocol.	2020	
E.1.b	Further develop and implement VTrans' Stormwater Management Program using the results of the "Stormwater Program Evaluation" (2015 - 2017).		VTrans is utilizing the results of the evaluation by beginning work on action number 7, Institutionalize Maintenance and Good Housekeeping Practices, as identified in the stormwater program evaluation.	Ongoing	
E.2	Update and implement the "VTrans Gap SOP" to include areas statewide that are within the TS4.		The GAP procedure has been updated and is being implemented in the MS4 area. VTrans will begin implementing the procedure outside of the MS4 area beginning July 1, 2020.	Ongoing	
E.3			Essex STPG 030-1(22) followed the VTrans Gap procedure		
E.6	Conduct and attend post-construction (operational) stormwater management training.		See Tab 6.1 for a list of trainings that VTrans has conducted and/or attended.	Ongoing	
MCM 6.F (#6): Pollution Prevention and Good Housekeeping for Municipal Operations					
F.2	If phosphorus fertilizer is used for turf management, perform an annual soil test and provide a copy of test results to ANR.		If relevant, VTrans has included annual soil test results in Appendix C of the annual report.	Annually, when relevant	See Appendix C in the annual report.
F.3	For facilities that are not currently covered, develop SWPPPs for state garages located outside of the MS4 on a schedule of four facilities a year.	18 of the 20 SWPPPs required in the permit term have been developed	In 2019, VTrans has prepared SWPPPs for the following facilities outside of the MS4: Cambridge, Montgomery, Island Pond, Derby, St. Johnsbury, Bennington, Clarendon, Rockingham, Royalton, Thetford.	Ongoing	
F.3.a	Continue to conduct trainings and inspections at facilities currently covered		See Tab 6.3.a for a list of trainings and inspections conducted.		
	Maintain and update facility documents annually		See Tab 6.3.a for a list of documents maintained and updated.		
	Summarize corrective actions that have taken place at facilities:		See Tab 6.3.a for a summary of corrective actions.		
F.3.b	Implement good housekeeping measures and consider development of additional measures. Indicate:		VTrans is continuing to implement good housekeeping measures.	Ongoing	
	Total volumes of salt and sand usage for winter road maintenance:		Sept. 1, 2018 through June 1, 2019 VTrans usage: Salt: 208,672 tons, Sand: 6,858 cubic yards, Salt Brine: 2,919,595 gallons, Liquid De-Icer: 191,527 gallons		
	Total number of lanes miles street sweeping was conducted on:	2840 lane miles	At a minimum Vtrans will conduct street sweeping on 2,000 lane miles per year.		
	Percentage of Vtrans roads storm drain inspections were conducted on:	14.2%	5120 culverts were inspected in 2019		
	Number of slope stabilization and erosion repair projects completed:	10	The projects in include Jacksonville VT100 stone lining, Erosion repair and culvert replacement in Hardwick VT 16 and Charlston VT 105, Slope erosions repair in Derby VT 105, two stabilization projects along VT 5a and Lake Willoughby. Stabilization projects at the Montgomery garage, St. Albans garage, Derby Garage, Island Pond garage.		

	Additional measures established:			
F.4	Conduct annual monitoring and spill response, and take corrective actions under the SPCC Plans. Indicate:	VTrans Hazmat Unit Staff are continuing to implement SPCC Plans, involving monitoring, spill response, and implementation of corrective actions. Monitoring and corrective actions taken include: Number of Spills Monitoring Events Corrective Actions* Roadway: 17 4 25 Facility: 5 0 4 *Corrective Actions include spill response and reporting	Ongoing	
	Trainings, with list of trainees and topics:	See Tab 6.1 for a list of trainings that VTrans has conducted and/or attended.		

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TAB 6.1: Trainings Summary

Section 6.0 Minimum Control Measures: Construction and Operational Stormwater		
Class Title	Total Attendance	Target Audience
Rivers and Roads Tier III -3 day-long modules	36	VTrans staff, ANR River Management staff, a few consultants, a few RPC staff
Webinar- Vegetative Bio-Engineering Stabilization for Shorelines	6	VTrans staff
UVM webinar: Phosphorus in Soil &Water	2	VTrans staff
Clean water lecture series: Tactical Basin plan interactive map	1	VTrans staff
Webinar: How trees influence urban stormwater management in GSI practices	2	VTrans staff
Clean water lecture series: stormwater update - 3 acre permit	2	VTrans staff
Webinar: GSI: A Triple Bottom Line Approach to Env. Justice	1	VTrans staff
WNRCD Erosion control workshop	5	VTrans staff
ANR: Lake score cards highlight restoration progress & protection needs	1	VTrans staff
Webinar: How a Tree Plan Can help with Stormwater Management	2	VTrans staff
Webinar: Going Wild: The Conservation Co-benefits of GSI	2	VTrans staff
TRB Webinar: Limitations of the Infiltration Approach to Stormwater Mgt.	2	VTrans staff
Webinar: AASHTO SW Community of practice: Const.to Maintenance Handoff	7	VTrans staff, partially presented by VTrans staff
MN SW Seminar Series- What happens when perm. pavements freeze?	4	VTrans staff

Section 6.0 Minimum Control Measures: Hazardous Materials, SPCC, Spill Prevention and Response		
Class Title	Total Attendance	Target Audience
HazCom: emergency spill response and reporting	425	Hwy Maintenance districts and central garage staff; state-wide
Winter Maintenance Training	43	Hwy Maintenance districts
Spill Prevention, Control, and Countermeasures	94	Hwy Maintenance district garage staff, State Airport FBOs,

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TAB 6.3.a: Facilities Updates

Section 6.3.a Minimum Control Measures: Trainings and Inspections Conducted at Facilities		
Class Title	Total Attendance	Target Audience
Bennington Garage	2	Maintenance Staff
Castleton Garage	2	Maintenance Staff
Central Garage	2	Maintenance Staff
Clarendon Garage	1	Maintenance Staff
Colchester Chimney Corners Garage	2	Maintenance Staff
Colchester Fort Ethan Allen Garage	3	Maintenance Staff
Eden Garage	3	Maintenance Staff
Enosburg Garage	4	Maintenance Staff
Irasburg Garage	2	Maintenance Staff
Ludlow Garage	3	Maintenance Staff
Mendon Garage	3	Maintenance Staff
Middlebury Garage	3	Maintenance Staff
Middlesex Garage	2	Maintenance Staff
New Haven Garage	2	Maintenance Staff
North Montpelier Garage	5	Maintenance Staff
Rutland Central Garage	1	Maintenance Staff
St. Albans Garage	2	Maintenance Staff
Sudbury Garage	2	Maintenance Staff
Waitsfield Garage	2	Maintenance Staff
Wilmington Garage	2	Maintenance Staff

Section 6.3.a Minimum Control Measures: Facility Documents Maintained and Updated		
Document Name		
Wilmington Garage		
Ludlow Garage		
Rutland Central Garage		
Mendon Garage		
Castleton Garage		
Sudbury Garage		
Colchester Fort Ethan Allen Garage		
Colchester Chimney Corners Garage		
Middlebury Garage		
New Haven Garage		
Middlesex Garage		
Waitsfield Garage		
Middlesex Garage		
St. Albans Town Garage		

Eden Garage		
Enosburg Garage		
Central Garage		
North Montpelier Garage		
Irasburg Garage		

Section 6.3.a Minimum Control Measures: Corrective Actions Identified at Facilities		
Facility		Corrective action identified
Middlebury Garage		Revegetate a section of the yard in 2020.
St. Albans Garage		Stone line discharge point
Eden Garage		Stone line swale along Rt 118
Enosburg Garage		Stone line discharge point
North Montpelier Garage		Clean out Check Dams and reline if needed.
Irasburg Garage		Construct berm to hold back sand pile run off

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TAB 7.0: Industrial Activities Summary

Facility Name	Permit Number	Sector	Inspection/Training Date	Attendance of Training	Corrective Action
W.H. Morse Air	4579-9003.R	S	10/11/2019	2	
E.F. Knapp Air	4582-9003.R	S	5/30/2019	1	Cut trees in the pond to the west, get a sump disposal can at the fuel farm
Rutland Air	3769-9003.R	S	10/11/2019	1	
Newport Air	3836-9003.R	S	8/23/2019	1	
Franklin Cnty Air	3065-9003.R	S	6/5/2019	2	Check abandoned planes for any fluids. Remove fluids or planes if any are found.
Caledonia Air	3896-9003.R	S	5/24/2019	1	Reveg swale where herbicide was used on the fence line
Middlebury Air	4581-9003.R	S	9/18/2019	2	
Morrisville - Stowe Air	4272-9003.R	S	05/29/2019	2	
Hartness Air	4580-9003.R	S	9/25/2019	2	
J.H. Boylan Air	4574-9003.R	S			NO EXPOSURE
E. Dorset Pit	4576-9003.R	J	8/23/2019	2	
Hinesburg Pit	4577-9003.R	J	9/4/2019	2	
Calais Pit	6054-9003.R	J	10/3/2019	1	

Permit Name	Permit Number	Region	Inspection Date	Inspector Name	Inspector Title	Permit Name Changed	How Permit Name	Ownership Changed	Impervious Changed	Permit Status	Mowing Needed	Revegetation Needed	Catch Basin Cleaning	Block Discharge	Environment Refueling	Excision	Redundant	Maintenance Description	Compliant	Comments	Year	Regional Stormwater Tech
Abury Swanton Microtunnel Bay Bridge	6070-0020-R	District 8 Northeast	5/14/2019, 11:50 AM	WJ SS	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No	Showed out outlet on east side	Yes		2019	Northeast Region Tyler Hanson
Barns Town WE 026-1218 (roadside)	4989-0020	District 1 Northeast	5/10/2019, 10:00 PM	DJ Tech	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No	Catch basins will need cleaning 2020/2021	Yes		2019	Southwest Region Alpha Kane
Berrington-Hosack DP 040451 C73 BC/A	3156-0020-R	District 1 Southwest	5/6/2019, 12:00 PM	Jeremy Bruno	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No	The small trees in the stone swales/retention pond armoring need to be cut. There is also some overgrowth of phragmites/reeds in a couple detention ponds.	Yes	Minor Maintenance issues listed need to be addressed, but otherwise fine	2019	Southwest Region Dexter Puls
Borris L.T. Knapp Senior Living Assisted Living	4382-0020	N Airports	5/16/2019, 12:00 PM	Tyler Harrison	Stormwater Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Northeast Region Tyler Hanson
Burton-03	3768-0020-R	District 1 Southwest	5/20/2019, 4:49 PM	Jim Caslin	District Tech	No	No Name Change	No	No	Constructed	Yes	No	No	No	No	No	Yes	Well pond slope was seeded summer 2019, will check for established growth summer 2020	Yes		2019	Southwest Region Dexter Puls
Busby STP BFF 021-1012	5221-0020	District 1 Northeast	6/19/2019, 8:30 AM	Bulpho	District Project Manager	No	No Name Change	No	No	Constructed	Yes	No	No	No	No	No	No		Yes		2019	Northeast Region Tyler Hanson
Cambridge BFF 021-1016 & STP 030-1273	4701-0020-R	District 8 Northeast	6/18/2019, 10:18 AM	AW/SS	District Tech	No	No Name Change	No	No	Constructed	Yes	No	No	No	No	No	No		Yes	Curb line needs to be swept, revisit catch basins after sweeping	2019	Southwest Region Tyler Hanson
Chandler BFF F016-1213	3905-0020-R	District 2 Southwest	7/12/2019, 11:12 AM	Tyler Birchmore	District Tech	No	No Name Change	No	No	Constructed	Yes	No	No	No	No	No	No		Yes		2019	Southwest Region Michael Johnson
Colchester 02 "Yan" Site Redevelopment	6161-0020-R	District 1 Northeast	6/20/2019, 10:00 AM	Bulpho	District Project Manager	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Northeast Region Tyler Hanson
Colchester WE 020128	7427-0020	District 8 Northeast	6/11/2019, 1:42 PM	Steve Starley	District Tech	No	No Name Change	No	No	Constructed	Yes	No	No	No	No	No	No		Yes		2019	Northeast Region Tyler Hanson
Colchester Park & Ride and Maintenance Facility	3023-0020-R	District 1 Northeast	6/12/2019, 1:14 PM	Bulpho	District Project Manager	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Northeast Region Tyler Hanson
Comwall BR007200	5606-0020	District 1 Northeast	6/19/2019, 9:26 AM	Bulpho	District Project Manager	No	No Name Change	No	No	Constructed	Yes	No	No	No	No	No	No		Yes		2019	Northeast Region Tyler Hanson
Conoverville Garage Stormwater Improvements	7758-0020	District 1 Southwest	6/18/2019, 11:40 AM	Tyler Birchmore	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No	Grass needed. Will monitor growth through the summer and plant more grass if needed.	Yes		2019	Southwest Region Michael Johnson
Ferrisburgh Mass. Facility	1899-0020-A1	District 1 Northeast	6/19/2019, 11:06 AM	Bulpho	District Project Manager	No	No Name Change	No	No	Constructed	Yes	Yes	No	No	No	No	No	Middle of yard was opposed to be seeded. Minimal used back	Yes		2019	Northeast Region Tyler Hanson
Groton F 026-1127 & BFF 026-1127/5	3884-0020-R	District 7 Northeast	5/29/2019, 12:45 PM	DJ Tech	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Northeast Region Alpha Kane
Hadfield Waste Station W 019-1225	6989-0020	District 2 Southwest	6/18/2019, 11:05 AM	Maghan Brink	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Southwest Region Michael Johnson
Hartford BR 011-1211	3903-0020-R	District 4 Southwest	5/14/2019, 10:30 AM	Michelle Redmond	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Southwest Region Michael Johnson
Highway 018 Highway Maintenance Facility	4202-0020-R	District 1 Northeast	6/18/2019, 1:04 AM	WJ	District Tech	No	No Name Change	No	No	Constructed	Yes	No	No	No	No	No	No		Yes		2019	Southwest Region Tyler Hanson
Hyle Park WE 019-1211 roadside	6203-0020	District 8 Northeast	6/19/2019, 11:20 AM	Steve Starley	District Tech	No	No Name Change	No	No	Constructed	Yes	No	No	No	No	No	No		Yes	Revegetate or stone line minor erosion	2019	Northeast Region Tyler Hanson
Johnson STP 020-121221 (Overseas)	6213-0020	District 1 Northeast	6/18/2019, 10:40 AM	Steve Starley	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes	Mowing needed, to be completed this season.	2019	Northeast Region Tyler Hanson
London - Catonsville City Airport	3896-0020	N Airports	5/14/2019, 10:45 AM	Alpha Kane	Stormwater Tech	No	No Name Change	No	No	Constructed	No	Yes	No	No	No	No	No		Yes	All catch basins cleaned and curbline has been swept	2019	Northeast Region Alpha Kane
Middlebury State Airport Safety Area Bypass	4081-0020	N Airports	6/17/2019, 11:20 PM	Michael Johnson	Stormwater Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Northeast Region Michael Johnson
Middlebury State Airport Expansion	4218-0020	District 1 Northeast	6/20/2019, 8:22 AM	Bulpho	District Project Manager	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Southwest Region Tyler Hanson
Millon STP 1800-12	6019-0020	District 1 Northeast	6/19/2019, 1:13 PM	Bulpho	District Project Manager	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Northeast Region Tyler Hanson
Newtown STP-021-1015 Northern	1787-0020-R	District 1 Northeast	7/12/2019, 1:04 PM	Tyler Birchmore	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Southwest Region Michael Johnson
Pittsford Brandon Sigs 5	3628-0020	District 1 Southwest	5/20/2019, 1:50 PM	Jim Caslin	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	Yes	Need to remove trees and debris from ditch line. Needs some ditching	Yes		2019	Southwest Region Dexter Puls
Putnam CMS PARK(2)	6923-0020-A	District 1 Southwest	6/18/2019, 11:28 AM	Maghan Brink	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes	could use more stone in parts of ditchline, sediment in various locations, needs ditching	2019	Southwest Region Michael Johnson
Randolph CMS Park 1211 SC Park & Ride	3850-0020	District 4 Southwest	5/14/2019, 8:30 AM	Michelle Redmond	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	Yes	Yes	Cut tree spillway, clean sediment out ditch, fix erosion ditch	Yes		2019	Southwest Region Michael Johnson
Richardson STP 01504511 (Overseas) Truss	1024-0020	District 1 Northeast	6/12/2019, 11:30 AM	Bulpho	District Project Manager	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Southwest Region Tyler Hanson
Searsburg W/Ingration F020-0218 (NY Rte 9)	4301-0020-R	District 1 Southwest	5/17/2019, 12:00 PM	Jeremy Bruno	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes	No major issues - minor maintenance issues (minor erosion, minor sediment at few DP1 - DP#8) covered in bark armor but still moving water - swales look fine	2019	Southwest Region Dexter Puls
Sheldon WE 018-1217 Reconstruction	3861-0020-R	District 8 Northeast	6/18/2019, 11:22 AM	WJ SS	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Northeast Region Tyler Hanson
Springfield CMS PARK(2)	7034-0020	District 2 Southwest	7/12/2019, 10:17 AM	Tyler Birchmore	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	Yes	No	Add ditch stone to prevent further headcutting	Yes		2019	Southwest Region Michael Johnson
Stockbridge BFF 021-1010	4213-0020	District 4 Southwest	5/14/2019, 9:00 AM	Michelle Redmond	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Southwest Region Michael Johnson
Waggoner Farmstead 021-1011 22A	1765-0020-R	District 1 Northeast	6/19/2019, 10:30 AM	Bulpho	District Project Manager	No	No Name Change	No	No	Constructed	Yes	No	No	No	No	No	No		Yes		2019	Southwest Region Tyler Hanson
Westminster-Boddingham BR 011-1215	1763-0020-R	District 2 Southwest	6/18/2019, 1:33 PM	Maghan Brink	District Tech	No	No Name Change	No	No	Constructed	No	No	Yes	No	No	No	No		Yes		2019	Southwest Region Michael Johnson
Wilmington F 010-1010	1364-0020-R	District 1 Southwest	5/20/2019, 11:00 AM	Jeremy Bruno	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Southwest Region Dexter Puls
Windsor Garage Site Improvements	5489-0020-A	District 4 Southwest	5/14/2019, 10:45 AM	Michelle Redmond	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes	Grass will be planted in disconnection area this summer	2019	Southwest Region Michael Johnson
Windsor WE 019-1014	6971-0020	District 4 Southwest	5/14/2019, 10:00 AM	Michelle Redmond	District Tech	No	No Name Change	No	No	Constructed	No	No	No	No	No	No	No		Yes		2019	Southwest Region Michael Johnson

TAB 9.1: Flow Restoration Plan (FRP) Implementation Summary

TS4_FRP_Unique	DEC_ID	Project Name	Responsible			Applicable FRP	Latitude	Longitude	Existing SW permit number (if applicable)	BMP Tracking Specifications						Design, Construction and Maintenance				VTrans Comments_10-2018	VTrans Comments_04-2019		
										Land Owner	Party	BMP Type (See BMP definitions Tab)	Impervious area treated (acres)	Pervious area treated (acres)	Storage volume (cuft)	Infiltration rate (in/hr)	Is this an upgrade to an existing BMP?	If upgrade, enter previous storage volume (cuft)	Cost Estimate (if available)			BMP status	Date of Planned Construction
Allen_42		Rest Area Pond Retrofit	VTrans / VT B	Vtrans TS4	Allen Brook	44.437353	-73.079423	1-0963	Extended Dry Detention pond	4.42	22.38	29,172		No	NA	\$158,000	Under Constructi	2018-2019					
Allen_60		Town Office	VTrans	Vtrans TS4	Allen Brook	44.4318979	-73.07751906	NP	Median Filter	0.37	1.86	2,660		No	NA	\$32,000	Under Constructi	2018-2019					
Allen_70		WCA_1	VTrans	Vtrans TS4	Allen Brook	44.43388963	-73.07019961	NP	Median Filter	0.68	3.56	7,643		No	NA	\$92,000	Under Constructi	2018-2019					
Allen_61		WCA_2	VTrans	Vtrans TS4	Allen Brook	44.4356164	-73.07990611	NP	Median Filter	0.44	2.08	1,852		No	NA	\$25,000	Under Constructi	2018-2019					
Allen_72		WCA_3	VTrans	Vtrans TS4	Allen Brook	44.43591911	-73.08167008	NP	Median Filter	0.55	1.76	1,318		No	NA	\$25,000	Under Constructi	2018-2019					
Allen_73		WCA_4	VTrans	Vtrans TS4	Allen Brook	44.43624166	-73.08392315	NP	Median Filter	0.71	2.54	4,404		No	NA	\$53,000	Under Constructi	2018-2019					
Allen_67		VTrans Median A	VTrans	Vtrans TS4	Allen Brook	44.43829316	-73.10417361	NP	Median Filter	0.30	0.98	5,040		No	NA	\$60,000	Under Constructi	2018-2019					
Allen_68		VTrans Median B	VTrans	Vtrans TS4	Allen Brook	44.43819862	-73.10312242	NP	Median Filter	0.21	0.52	3,390		No	NA	\$41,000	Under Constructi	2018-2019					
Allen_62		VTrans Median E	VTrans	Vtrans TS4	Allen Brook	44.4335011	-73.06392831	NP	Median Filter	0.30	0.87	3,642		No	NA	\$44,000	Under Constructi	2018-2019					
Allen_63		VTrans Median F	VTrans	Vtrans TS4	Allen Brook	44.43344021	-73.06275939	NP	Median Filter	0.20	0.86	3,705		No	NA	\$44,000	Under Constructi	2018-2019					
Allen_64		VTrans Median G	VTrans	Vtrans TS4	Allen Brook	44.43339663	-73.06126436	NP	Median Filter	0.32	1.22	5,090		No	NA	\$61,000	Under Constructi	2018-2019					
Allen_65		VTrans Median H	VTrans	Vtrans TS4	Allen Brook	44.43336843	-73.05968678	NP	Median Filter	0.25	1.05	4,902		No	NA	\$59,000	Under Constructi	2018-2019					
Allen_66		VTrans Median I	VTrans	Vtrans TS4	Allen Brook	44.43334124	-73.05811081	NP	Median Filter	0.37	1.29	5,846		No	NA	\$70,000	Under Constructi	2018-2019					
Bartlett_28		Bartlett Bay Treatment System (BBT)	VTrans/ South	Vtrans TS4	Bartlett Brook	44.42345911	-73.20979163	5625-9010, 2	Wet pond/ Created Wetland	9.18	6.88	23,958		Yes	NA	\$378,000	Final Design	2018-2019					
Rugg_13		SDC27	VTrans	Vtrans TS4	Rugg Brook	44.788733	-73.071891	NP	Median Filter	0.43	1.19	2,762		No	NA	\$18,000	Preliminary Desig	2020-2022					
Rugg_2		SDC280	VTrans	Vtrans TS4	Rugg Brook	44.786703	-73.072319	NP	Median Filter	0.37	1.76	2,741		No	NA	\$18,000	Preliminary Desig	2020-2022					
Rugg_3		SDC29	VTrans	Vtrans TS4	Rugg Brook	44.781798	-73.073291	NP	Median Filter	0.41	1.84	2,358		No	NA	\$15,000	Preliminary Desig	2020-2022					
Rugg_12		SDC342	VTrans	Vtrans TS4	Rugg Brook	44.780473	-73.073556	NP	Median Filter	0.31	1.29	2,358		No	NA	\$15,000	Preliminary Desig	2020-2022					
Rugg_11		SDC347	VTrans	Vtrans TS4	Rugg Brook	44.783058	-73.073026	NP	Median Filter	0.30	1.10	2,608		No	NA	\$17,000	Preliminary Desig	2020-2022					
Rugg_14		SDC83a	VTrans	Vtrans TS4	Rugg Brook	44.785364	-73.072583	NP	Median Filter	0.27	1.44	2,534		No	NA	\$16,000	Preliminary Desig	2020-2022					
Rugg_10		SDC83b	VTrans	Vtrans TS4	Rugg Brook	44.784141	-73.072811	NP	Median Filter	0.36	1.44	3,339		No	NA	\$22,000	Preliminary Desig	2020-2022					
Rugg_4		SDC87	VTrans	Vtrans TS4	Rugg Brook	44.778277	-73.073984	NP	Median Filter	0.92	4.00	5,579		No	NA	\$36,000	Preliminary Desig	2020-2022					
Stevens_19		Fairfield Rd / I-89	VTrans	Vtrans TS4	Stevens Brook	44.8014174	-73.05835728	NP	Extended Dry Detention pond	2.07	26.85	29,795		No	NA	\$109,000	Preliminary Desig	2020-2022					
Stevens_18		Median A1	VTrans	Vtrans TS4	Stevens Brook	44.80969225	-73.06418466	NP	Median Filter	0.42	0.48	2,468		No	NA	\$27,000	Preliminary Desig	2020-2022					
Stevens_17		Median A2	VTrans	Vtrans TS4	Stevens Brook	44.80849093	-73.06433417	NP	Median Filter	0.30	0.36	1,881		No	NA	\$21,000	Preliminary Desig	2020-2022					
Stevens_7		SDC105b	VTrans	Vtrans TS4	Stevens Brook	44.80725051	-73.06447737	NP	Median Filter	0.53	0.46	2,333		No	NA	\$26,000	Preliminary Desig	2020-2022					
Stevens_6		SDC105c	VTrans	Vtrans TS4	Stevens Brook	44.80585555	-73.06465071	NP	Median Filter	0.44	0.40	1,799		No	NA	\$20,000	Preliminary Desig	2020-2022					
Stevens_8		SDC118	VTrans	Vtrans TS4	Stevens Brook	44.80435029	-73.06479914	NP	Median Filter	0.55	0.53	2,544		No	NA	\$28,000	Preliminary Desig	2020-2022					
Stevens_9		SDC140b	VTrans	Vtrans TS4	Stevens Brook	44.80015068	-73.0662475	NP	Median Filter	0.50	0.50	2,359		No	NA	\$26,000	Preliminary Desig	2020-2022					
Stevens_10		SDC408	VTrans	Vtrans TS4	Stevens Brook	44.80155009	-73.06556776	NP	Median Filter	0.47	0.47	2,047		No	NA	\$23,000	Preliminary Desig	2020-2022					
Stevens_11		SDC98b	VTrans	Vtrans TS4	Stevens Brook	44.80286536	-73.0651057	NP	Median Filter	0.42	0.43	1,968		No	NA	\$22,000	Preliminary Desig	2020-2022					
Rugg_5		Exit 19 South	VTrans	Vtrans TS4	Rugg Brook	44.791849	-73.067647	NP	Extended Dry Detention pond	3.78	54.16	90,169		No	NA	\$270,000	Preliminary Desig	2020-2022					
Centennial_33		I-89 Cloverleaf (NE)	VTrans	Vtrans TS4	Centennial Brook	44.469863	-73.183543	NP	Underground Detention Chamber	13.80	25.38	102,584		No	NA	\$432,000	Planned	2023-2025					
Potash_183		Exit 13	VTrans	Vtrans TS4	Potash Brook	44.45383471	-73.18311342	NP	Gravel Wetland	4.77	11.95	24,699		No	NA	\$219,000	Planned	2023-2025					
Potash_184		Exit 14	VTrans	Vtrans TS4	Potash Brook	44.46827172	-73.18502522	NP	Gravel Wetland	1.81	3.09	12,807		No	NA	\$131,000	Planned	2023-2025					
Potash_186		I-89 Swale	VTrans	Vtrans TS4	Potash Brook	44.44648759	-73.15179558	NP	Median Filter	1.80	4.48	23,130		No	NA	\$129,000	Planned	2023-2025					
Potash_22		189 Cloverleaf	VTrans / Town	Vtrans TS4	Potash Brook	44.44426543	-73.20950221	NP	Extended Dry Detention pond	11.53	9.72	49,179		No	NA	\$59,000	Planned	2023-2025					
Indian_34		I-289/Route 15 North	VTrans	Vtrans TS4	Indian Brook	44.50803675	-73.08936891	NP	Median Filter	0.85	1.93	5,271		No	NA	\$34,000	Planned	2023-2025					
Indian_35		I-289/Route 15 South	VTrans	Vtrans TS4	Indian Brook	44.50657713	-73.08711915	NP	Median Filter	0.76	1.39	4,443		No	NA	\$29,000	Planned	2023-2025					
Rugg_8		I-89 / Holyoke Farm	Town / VTrans	Vtrans TS4	Rugg Brook	44.77508504	-73.0709442	NP	Infiltration Trench	0.50	61.33	62,117		No	NA	\$185,000	Planned	2026-2027					
Rugg_45		SASH / Federal St Connector	City/ VTrans	Vtrans TS4	Rugg Brook	44.8003766	-73.08386499	NP	Extended Dry Detention pond	4.89	16.23	15,682		No	NA	\$35,000	Planned	2026-2027					
Rugg_6		Access Rd. East	VTrans	Vtrans TS4	Rugg Brook	44.79429144	-73.0650501	NP	Extended Dry Detention pond	2.75	82.38	79,279		No	NA	\$410,000	Planned	2026-2027					
Rugg_7		Access Rd. West	VTrans	Vtrans TS4	Rugg Brook	44.79811421	-73.07577987	Drains Portio	Extended Dry Detention pond	0.55	13.15	28,401		Yes	NA	\$125,000	Planned	2026-2027					
Stevens_16		Upper Fairfield Hill Rd	VTrans	Vtrans TS4	Stevens Brook	44.797331	-73.052788	NP	Extended Dry Detention pond	3.36	30.90	55,757		No	NA	\$164,000	Planned	2026-2027					
Potash_159		Dorset St / 189 Ramps	VTrans / Town	Vtrans TS4	Potash Brook	44.45249613	-73.17968065	NP	Extended Dry Detention pond	5.57	3.79	15,159		No	NA	\$101,000	Planned	2026-2027					
Indian_27		Fairview Dr	Village/ VTrans	Vtrans TS4	Indian Brook	44.50098191	-73.09588351	1-1074 SN002	Gravel Wetland	4.13	25.27	28,967		Yes	1-1074 SN00	\$290,000	Planned	2028-2029					
Potash_157		Queen City Pk Rd	VTrans / Town	Vtrans TS4	Potash Brook	44.44493573	-73.21152185	NP	Extended Dry Detention pond	2.92	3.59	19,689		No	NA	\$99,000	Planned	2028-2029					
Bartlett_26		1690 Shelburne Rd	VTrans/ South	Vtrans TS4	Bartlett Brook	44.425328	-73.211497	5625-9010	Underground Detention Chamber	0.42	0.39	1,873		Yes	5625-9010	\$199,000	Planned	2028-2029					
Munroe_23		M08 Executive Dr Pond	Town/ VTrans	Vtrans TS4	Munroe Brook	44.412341	-73.21177788	1-1291	Extended Dry Detention pond	21.34	69.76	23,348		Yes	1-1291	\$25,000	Planned	2030-2031					
Munroe_36		Across from Tractor Supply	Town/ VTrans	Vtrans TS4	Munroe Brook	44.411013	-73.21784856	NP	Gravel Wetland	3.77	3.01	23,697		No	NA	\$480,000	Planned	2030-2031					
Munroe_34		By Danform Shoes	Town/ VTrans	Vtrans TS4	Munroe Brook	44.402707	-73.21522753	NP	Underground Detention Chamber	2.84	2.06	6,316		No	NA	\$102,000	Planned	2030-2031					
Centennial_5		I-89 Outfall	VTrans	Vtrans TS4	Centennial Brook	44.472064	-73.182822	NP	Extended Dry Detention pond	2.82	10.25	125,017		No	NA	\$1,419,000	Planned	2032					
Moon_22		Randbury Rd	VTrans/ Town	Vtrans TS4	Moon Brook	43.587445	-72.967013	New Road Pr	Gravel Wetland	10.95	12.15	35,937		No	NA	\$279,000	Planned	2032					
Sunderland_46		Tracy Rd.	VTrans/ Colch	Vtrans TS4	Sunderland Brook	44.50377	-73.153877	6363-INDS	Infiltration Trench	3.89	1.08	18,513		Yes	6363-INDS	\$54,000	Planned	2032					

Vermont Agency of Transportation (VTrans)
 Transportation Separate Storm Sewer System (TS4)
 Stormwater Management Program (SWMP)
 Annual Report Workbook
 2019

TAB 9.2: Phosphorus Control Plan (PCP) Development Reporting

Milestone Date	Milestone	Progress Toward Meeting Milestone	Anticipated Schedule
1/1/2018	Submit NOI and SWMP.	NOI and SWMP submitted on December 5, 2017.	Complete
4/1/2018	Establish the baseline phosphorus load and reductions needed. (Subpart 9.2.A.1)	Baseline P load and reductions needed established on March 30, 2018.	Complete
10/1/2018	Complete GIS inventory of phosphorus loading factors. (Subpart 9.2.A.2)	Memo: VTrans PCP - Submission of GIS Files of Loading Factors - dated Oct. 1, 2018	Complete
4/1/2019	Complete development of coefficients of loading rates. (Subpart 9.2.A.3)	Memo: VTrans PCP - Submission of Coefficients for Phosphorus Loading Rates - dated April 1, 2019	Complete
10/1/2019	Submit progress report on Phosphorus Control Plan.	Memo: VTrans PCP – Submission of Progress Report on the Phosphorus Control Plan - dated Oct. 1, 2019	Complete
4/1/2020	Complete generalized statewide Phosphorus Control Plan. (Subpart 9.2.A.4)		
10/1/2020	Submit 1st 4-year implementation plan (Phase I). (Subpart 9.2.A.5)		
April 1, 2021 and every 6 months thereafter (April 1st and October 1st)	Submit semi-annual report on Phosphorus Control Plan implementation. (Subpart 9.2.D)		
10/1/2024	Submit 2nd 4-year implementation plan (Phase II). (Subpart 9.2.A.5)		
10/1/2028	Submit 3rd 4-year implementation plan (Phase III). (Subpart 9.2.A.5)		
10/1/2032	Submit 4th 4-year implementation plan (Phase IV). (Subpart 9.2.A.5)		
No later than June 17, 2036	Complete implementation of the approved PCP.		