

Vermont Agency of Transportation (VTrans)  
 Transportation Separate Storm Sewer System (TS4)  
 Stormwater Management Program (SWMP)  
 Annual Report Workbook  
 2023

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 (2023)
<b>4.1 Measures and Progress for Discharges to Impaired Waters With an Approved TMDL With Wasteload Allocation</b>							
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	District road crews inspect the roadways throughout the year. Drainage infrastructure was inspected in this watershed. VTrans has submitted a progress report on the development of the lake Memphramagog PCP on March 28th, 2024.
<b>4.2 Measures and Progress for Discharges to Impaired Waters With an Approved TMDL Without Wasteload Allocation</b>							
LAKE CARMÍ (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	District road crews inspect the roadways throughout the year. Drainage infrastructure was inspected 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.
<b>4.3 Measures and Progress for Discharges to Impaired Waters Without an Approved TMDL</b>							
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.	Chloride usage within impaired watershed	<b>Material usage:</b> Salt (ton): 77.15, Sand (ton): 0.00, Prewet (gal): 794.7, Anti Ice (gal): 1.2
SUNNYSIDE BROOK	CHLORIDE	No	No	2		Chloride usage within impaired watershed	<b>Material usage:</b> Salt (ton): 20.82, Sand (ton): 0, Prewet (gal): 116.8, Anti Ice (gal): 0.3
CENTENNIAL BROOK	CHLORIDE	No	No	2		Chloride usage within impaired watershed	<b>Material usage:</b> Salt (ton): 301.37, Sand (ton): 0, Prewet (gal): 809.6, Anti Ice (gal): 1.5
ENGLESBY BROOK	CHLORIDE	No	No	2		Chloride usage within impaired watershed	<b>Material usage:</b> Salt (ton): 0, Sand (ton): 0, Prewet (gal): 0, Anti Ice (gal): 0
POTASH BROOK	CHLORIDE	No	No	2		Chloride usage within impaired watershed	<b>Material usage:</b> Salt (ton): 136.56, Sand (ton): 0, Prewet (gal): 1984, Anti Ice (gal): 6.3
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
RUGG BROOK	NUTRIENTS, SEDIMENT, E. COLI	No	No	14	Inspect hydrologically connected road segments, stabilize visible erosion	Median retrofit inspected. District road crews inspect the roadways throughout the year.	
STEVENS BROOK	NUTRIENTS, SEDIMENT, E. COLI	No	No	14		Inspect hydrologically connected road segments, stabilize visible erosion	St. Albans Park and Ride gravel wetland inspected. 6765-9010 inspected. St. Albans garage stormwater plan training and inspection was performed.
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	District road crews inspect the roadways throughout the year. Drainage infrastructure was inspected 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	District road crews inspect the roadways throughout the year. Continued working with Friends of Northern Lake Champlain and Stone Environmental in advancing the design of a treatment system in this watershed. Construction of the final phase of the project is planned for April of 2024.
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	Inspect hydrologically connected road segments, stabilize visible erosion	District road crews inspect the roadways throughout the year.

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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)	Schedule	Attachments
<b>MCM 6.A (#1): Public Education and Outreach on Stormwater Impacts</b>				
A.1		VTrans maintains a website at: <a href="https://vtrans.vermont.gov/operations/technical-services/environmental/stormwater">https://vtrans.vermont.gov/operations/technical-services/environmental/stormwater</a>	Ongoing	<a href="https://vtrans.vermont.gov/operations/technical-services/environmental/stormwater">https://vtrans.vermont.gov/operations/technical-services/environmental/stormwater</a>
A.2		VTrans is continuing to maintain a stormwater management demonstration site and kiosk at the St. Albans Park & Ride, the Williston I-89 Northbound Information Center and Randolph Park and Ride. Within this permit term we will be working on developing a stormwater demonstration site and kiosk at the Williston Park and Ride. 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: <a href="http://informationcenter.vermont.gov/visitor_statistics">http://informationcenter.vermont.gov/visitor_statistics</a> .	Ongoing	<a href="http://informationcenter.vermont.gov/visitor_statistics">http://informationcenter.vermont.gov/visitor_statistics</a>
A.3		VTrans is continuing to participate in the RSEP; see Appendix A of the annual report.	Ongoing	See Appendix A in the annual report
<b>MCM 6.B (#2): Public Involvement and Participation</b>				
B.1		VTrans is continuing to participate in the Stream Team; see Appendix B of the annual report.	Ongoing	See Appendix B in the annual report
<b>MCM 6.C (#3): Illicit Discharge Detection and Elimination</b>				
C.1	9,166 swale segments / 25,721 swale segments	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. The swale inspection reporting format was changed due to a restructure of our mapping data. We now report on swale sections inspected due to the splitting of swales to help track phosphorus crediting under our phosphorus control plan. 1,758 swale segments were inspected in 2023.	Ongoing	
C.2		In 2021, VTrans finalized and signed a new policy prohibiting illicit (non-stormwater) discharges into the state highway rights-of-way, into its stormwater collection, conveyance and treatment systems, and onto its other non-highway land holdings. The new policy, "Prohibition on Illicit (non-stormwater) discharges into VTrans TS4", can be found at <a href="https://vermontgov.sharepoint.com/sites/VTRANS/VTransIntranetHome/VTrans%20Policy%20Manual/Non-stormwater%20Prohibition%20into%20TS4.pdf">https://vermontgov.sharepoint.com/sites/VTRANS/VTransIntranetHome/VTrans%20Policy%20Manual/Non-stormwater%20Prohibition%20into%20TS4.pdf</a>	complete	
C.3		VTrans has developed and implemented a reporting and enforcement SOP to address non-stormwater discharges from outside the ROW. Additionally, the agency has developed a draft plan to conduct additional testing of outfalls for illicit discharges outside the MS4 areas. VTrans has started piloting the draft plan. 123 outfalls were tested in 2023.	Ongoing	See attachment C in the annual report
	Illicit discharges encountered or reported:	7	Seven potential illicit discharges locations were encountered or reported in 2023. The locations were Wolcott, Sheffield, Salisbury, New Haven, East Montpelier, Hardwick, and Sharon.	
	Monitoring activities conducted:	7	All sites were monitored.	
	Corrective actions taken or referrals to ANR:	7	reported to the EEO and found to be sulfur coming from a broken water pipe. Salisbury was reported to the EEO and is still an open case. New Haven was found to be a sump pump discharging into the right of way and is still an open case. East Montpelier was reported to EEO and is still an open case. Hardwick we were unable to obtain a sample due to construction burying the area, EEO found no evidence of a failing septic so we will visit the site again in the spring of 2024. Sharon is a gravel pit that is discharging sediment into our right of way and filling our culverts and ditching, reported to ANR and is still an open case.	
C.4		VTrans will create a webpage for Title 19 Section 1111 permit holders to inform them of hazards associated with illegal discharges and improper disposal of waste within the permit term	Ongoing	
	Title 19 Section 1111 permits issued:	559		
C.5		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		
<b>MCM 6.D (#4): Construction Site Stormwater Runoff Control</b>				
D.1		VTrans is continuing to comply with the terms of their stormwater construction permits.	Ongoing	
	Projects with GP 3-9020 and/or INDC coverage:	57	15 projects applied and received stormwater construct permit coverage in 2023 and 42 projects currently in construction have stormwater construction permit coverage.	
D.2		VTrans continues to review existing policies and their effectiveness. This year, the 2024 spec book and EPSC Field Inspection Handbook are being reviewed and developed, EPSC details reviewed, Off Site Activity process and forms have been reviewed and updated.	Ongoing	<a href="https://vtrans.vermont.gov/sites/aot/files/highway/documents/environmental/VTrans%20EPSC%20Protocol%202019.pdf">https://vtrans.vermont.gov/sites/aot/files/highway/documents/environmental/VTrans%20EPSC%20Protocol%202019.pdf</a>

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, the 2024 spec book and EPSC Field Inspection Handbook are being reviewed and developed, EPSC details reviewed, Off Site Activity process and forms have been reviewed and updated.	Ongoing	<a href="https://vtrans.vermont.gov/sites/aot/files/highway/documents/environmental/VTrans%20EPSC%20Protocol%202019.pdf">https://vtrans.vermont.gov/sites/aot/files/highway/documents/environmental/VTrans%20EPSC%20Protocol%202019.pdf</a>
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":	33	All projects follow the EPSC protocol. 33 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:	218			
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	
<b>MCM 6.E (#5): Post Construction Stormwater Management for New Development and Redevelopment</b>					
E.1.a	Continue to implement the "VTrans Project Post-Construction (Operational) Stormwater Protocol".		Vtrans updated the stormwater protocol, after completing a LEAN event on the stormwater process. The protocol was finalized and implemented in 2022.	2022	
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 completing action number 4, Optimize Use of 1111 Permits to Protect VTrans Systems. Progress to be reported in coming annual inspections.	Ongoing	
E.2	Continue to implement the "VTrans Gap SOP" to include areas statewide that are within the TS4.			Ongoing	
E.3			One project was identified to follow the gap procedure, Wilmington CULV (61)		
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	
<b>MCM 6.F (#6): Pollution Prevention and Good Housekeeping for Municipal Operations</b>					
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 will include annual soil test results in the annual report. No soil tests were performed in 2023.	Annually, when relevant	
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.	5 of the 20 SWPPPs required in the permit term have been developed	In 2023 five garage SWPPP's were created for West Danville, Highgate, St. Johnsbury, Williamstown, and Morrisville.	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, 2022 through June 1, 2023 VTrans usage: Salt: 115,897.55 tons, Sand: 2,976.25 cubic yards, Liquid Salt: 1,584,870.29 gallons, Liquid De-Icer: 74,608 gallons		
	Total number of lanes miles street sweeping was conducted on:	3223.33 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:	20.2%	At a minimum Vtrans will conduct road storm drain inspections on 100% of Vermont roads within the permit term.		
	Number of slope stabilization and erosion repair projects completed:	4	The four projects were slope stabilization projects in Lowel, Ira, Calias, and Westmore.		
	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:                      12                      0                      8 Facility:                      1                      0                      1 *Corrective Actions include removal and remediation of the spill	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**

<b>Section 6.0 Minimum Control Measures: Construction and Operational Stormwater</b>		
<b>Class Title</b>	<b>Total Attendance</b>	<b>Target Audience</b>
Maintenance Training Series: Roadway Drainage	4	VTrans staff
Math Basics for Maintenance Technicians	2	VTrans staff
PCC Pavement Preservation Series: Retrofitted Edge Drains	1	VTrans staff
Construction Stormwater Field Guide Training	6	VTrans staff
Environmental Triggers: Water Resources	2	VTrans staff
Rivers & Roads Tier I	43	VTrans staff
Rivers & Roads Tier II	39	VTrans staff
Rivers & Roads Tier III - Floodplain Restoration	14	VTrans staff
Highways & Habitats Tier I	20	VTrans staff
Highways & Habitats Tier II	12	VTrans staff
GSI with the City of South Burlington	1	VTrans staff

<b>Section 6.0 Minimum Control Measures: Hazardous Materials, SPCC, Spill Prevention and Response</b>		
<b>Class Title</b>	<b>Total Attendance</b>	<b>Target Audience</b>
HazCom: Emergency Spill Response and Reporting	86	Hwy Maintenance districts and central garage staff; state-wide
Spill Prevention, Control, and Countermeasures	86	Hwy Maintenance district garage staff, State Airport FBOs,

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**TAB 6.3.a: Facilities Updates**

<b>Section 6.3.a Minimum Control Measures: Trainings and Inspections Conducted at Facilities</b>		
<b>Class Title</b>	<b>Total Attendance</b>	<b>Target Audience</b>
E. Dorset Garage	2	Garage Staff
Wilmington	2	Garage Staff
Bennington	1	Garage Staff
Ludlow	1	Garage Staff
Rutland CG	1	Garage Staff
Mendon	2	Garage Staff
Clarendon	1	Garage Staff
Castleton	1	Garage Staff
Sudbury	1	Garage Staff
Colchester Fort Ethan Allen	4	Garage Staff
Colchester Chimney Corners	3	Garage Staff
Middlebury	3	Garage Staff
New Haven	2	Garage Staff
Middlesex	1	Garage Staff
Waitsfield	1	Garage Staff
St. Albans Town	2	Garage Staff
Eden	2	Garage Staff
Enosburg	3	Garage Staff
Montgomery	3	Garage Staff
Cambridge	2	Garage Staff
Central Garage	2	Garage Staff
North Montpelier	1	Garage Staff
Irasburg	1	Garage Staff
Ascutney	1	Garage Staff
Rockingham	2	Garage Staff

<b>Section 6.3.a Minimum Control Measures: Facility Documents Maintained and Updated</b>		
<b>Document Name</b>		
E. Dorset Garage		
Wilmington		
Bennington		
Ludlow		
Rutland CG		
Mendon		
Clarendon		
Castleton		

Sudbury		
Colchester Fort Ethan Allen		
Colchester Chimney Corners		
Middlebury		
New Haven		
Middlesex		
Waitsfield		
St. Albans Town		
Eden		
Enosburg		
Montgomery		
Cambridge		
Central Garage		
North Montpelier		
Irasburg		
Ascutney		
Rockingham		
St.Johnsbury		
Highgate		
West Danville		
Williamstown		
Morrisville		
<b>Section 6.3.a Minimum Control Measures: Corrective Actions Identified at Facilities</b>		
<b>Facility</b>		<b>Corrective action identified</b>
St. Albans Town		Add stone to keep a discharge point stable before next annual inspection
Eden Garage		Add stone to drainage swale before next annual inspection

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TAB 7.0: Industrial Activities Summary

Facility Name	Permit Number	Sector	Inspection/Training Date	Attendance	Corrective Action
W.H. Morse Air	4579-9003.R	S	8/9/23	2	
E.F. Knapp Air	4582-9003.R	S	6/12/2023	3	
Rutland Air	3769-9003.R	S	8/22/23	2	
Newport Air	3836-9003.R	S	6/21/2023	3	
Franklin Cnty Air	3065-9003.R	S	07/06/2023	3	
Caledonia Air	3896-9003.R	S	06/16/2023	3	
Middlebury Air	4581-9003.R	S	9/11/23	1	
Morrisville - Stowe Air	4272-9003.R	S	8/29/23	1	Fuel farm under construction. When complete, SWPPP will be updated
Hartness Air	4580-9003.R	S	6/28/23	4	
J.H. Boylan Air	4574-9003.R	S			
E. Dorset Pit	4576-9003.R	J	8/24/23	2	
Hinesburg Pit	4577-9003.R	J	10/02/2023	3	
Calais Pit	6054-9003.R	J	10/21/2023	2	





TAB 9.1: Flow Restoration Plan (FRP) Implementation Summary

TS4_FRP_Unique_DEC_ID	Project Name	Land Owner	Responsible Party	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	
								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			Date constructed
Allen_42	Rest Area Pond Retrofit	VTrans / VT BGS	Vtrans TS4	Allen Brook	44.437353	-73.079423	1-0963	Extended Dry Detention pond	4.42	22.38	29,172	No	NA	\$158,000	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
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	Complete	2018-2019	2020	4/18/2023		
Bartlett_28	Bartlett Bay Treatment System (BBTS)	VTrans/ South Burlington	Vtrans TS4	Bartlett Brook	44.42345911	-73.20979163	5625-9010, 2-0180, 2-0153	Wet pond/ Created Wetland	9.18	6.88	23,958	Yes		\$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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
Stevens_19	Fairfield Rd / I-89	VTrans	Vtrans TS4	Stevens Brook	44.8014174	-73.0583728	NP	Extended Dry Detention pond	2.07	26.85	29,795	No	NA	\$109,000	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Complete	2020-2022	2023	5/22/2023		
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	Final Design	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	Final Design	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	Final Design	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	Final Design	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	Final Design	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	Final Design	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	Final Design	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 Portion of 1-1428	Extended Dry Detention pond	0.55	13.15	28,401	Yes	Drains Portio	\$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	55,575	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/ Town	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 Burlington	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	-73.2117788	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 of Rutland	Vtrans TS4	Moon Brook	43.587445	-72.967013	New Road Project (Construction)	Gravel Wetland	10.95	12.15	35,937	No	NA	\$279,000	Planned	2032				
Sunderland_46	Tracy Rd.	VTrans/ Colchester	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 (VTtrans)  
 Transportation Separate Storm Sewer System (TS4)  
 Stormwater Management Program (SWMP)  
 Annual Report Workbook  
 2023

**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: VTtrans 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: VTtrans PCP - Submission of Coefficients for Phosphorus Loading Rates - dated April 1, 2019	Complete
10/1/2019	Submit progress report on Phosphorus Control Plan.	Memo: VTtrans 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)	Generalized statewide Phosphorus Control Plan submission - dated April 1, 2020	Complete
10/1/2020	Submit 1st 4-year implementation plan (Phase I). (Subpart 9.2.A.5)	Amendment of TS4 to incorporate generalized and 1st 4-year implementation plan - dated Oct. 1, 2020	Complete
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)	See attachment D: Lake Champlain Basin Phosphorus Control Plan Progress Report Memo	Complete
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.		