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**Craig DiGiammarino, Environmental Coordinator**

**TO:** Jim Pease, Analyst/Biologist, Vermont DEC Water Quality Division

**DATE:** 28 December 2007

**RE:** Small Municipal Separate Storm Sewer System (MS4) under GP-3-9014  
*[as amended 2/29/2004 and supplemented by Water Resources Board Memorandum of Decision dated 7/21/2005]*

**SUBJECT:** Response to Section 4.2.5.1.2.2 – Stream Corridor Options for Enhanced Protection (with Mapping)  
*[requires submittal to DEC-WQD by January 1, 2008 outlining options for enhanced protection of stream corridors within stormwater-impaired watersheds; includes stream corridor/impervious surface mapping]*

The Vermont Small Municipal Separate Storm Sewer Systems (MS4s) General Permit Requirements under Vermont Agency of Natural Resources (*the Agency*) General Permit 3-9014 were affirmed, but modified via Water Resource Board Dockets WQ-03-08 and WQ-04-03 (*Consolidated*) under a Memorandum of Decision (*July 21, 2005 MOD*) to clarify and add conditions to the General Permit. Please refer to each Section cited below for the Vermont Agency of Transportation (VTrans) response under Section 4.2.5.1.2.2, added as a result of the July 21, 2005 MOD.

**GENERAL BACKGROUND DISCUSSION:**

VTrans has been designated as an operator of a *Non-Traditional Municipal Separate Storm Sewer System (MS4)* under the National Pollutant Discharge Elimination System (NPDES), General Permit 3-9014 (Permit) for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) administered by the Vermont Agency of Natural Resources (ANR). The Permit is issued in accordance with the following state and federal laws and rules: the Vermont Water Pollution Control statute, 10 V.S.A. Chapter 47, including §§ 1259, 1263, and 1264; the Vermont Water Pollution Control Rules, Chapter 13, including the rule governing general permits in Section 13.12; the federal Clean Water Act, as amended, 33 U.S.C.A. 1251 et seq., including 33 U.S.C.A. 1342(p); and the regulations of the federal Environmental Protection Agency including 40 CAR 122.26, 40 CAR 122.28 and 40 I.E. 122.30 to 122.37.

VTrans is required to comply with the conditions of the General Permit on state highways, other transportation facilities, and VTrans maintenance facilities that are located in the 2000 Census Urbanized Areas (UA) and in the watersheds of waters that are principally impaired by collected stormwater runoff when the watersheds are located entirely or partially in the UAs. Municipalities that contain the UAs are also designated as MS4s. The other Vermont MS4s are Burlington, Colchester, Essex, Essex Junction, Shelburne, South Burlington, Williston, and Winooski, Burlington International Airport and the University of Vermont. The VTrans Non-Traditional MS4 area, regulated by this Permit, is approximately two (2) square miles. The area includes approximately 90 miles of State Highway and one Maintenance Garage located within the UAs and the associated impaired watersheds. The VTrans MS4 area is linear in nature due to the infrastructure and associated right-of-way under our control.

**Section 4.2.5.1.2.2 reads:** “No later than January 1, 2008, prepare and submit a plan outlining options for enhanced protection of stream corridors of stormwater-impaired waters. The plan should include a map of stream corridors depicting areas that have been converted to impervious surface and areas that are undeveloped or have not been converted to impervious surface. In preparing this plan you should review riparian buffer and stream fluvial geomorphologic information provided to you by the Agency as a result of the Agency’s preparation of TMDLs or Water Quality Remediation Plans as set forth in 10 V.S.A. §1264(f)(3).”

**VTrans Response:** With the technical assistance of the Chittenden County Regional Planning Commission GIS Mapping Unit and using impervious coverage data layers provided by the Agency, we have developed a plan showing all areas within the stormwater impaired watersheds where VTrans owned and controlled impervious surfaces encroach upon our designated 50-foot riparian buffer (*note: buffer delineation, for plan development purposes only, is set at 75-feet from the centerline of the waterway. This 75-foot mapping buffer width assumes the VTrans designated 50-foot buffer measured from top of bank; adding ½ of this distance since mapping measurement is taken from centerline of waterway*).

The December 2007 “VTrans MS4 Stream Corridor Plan” (*attached*) depicts areas of the 50-foot riparian buffer within VTrans right-of-way converted to impervious surface and areas that are undeveloped (*not impervious*). VTrans has been designated a “non-traditional” MS4 with a linear footprint crossing through multiple MS4 Municipalities each with varying Development Regulations controlling impacts within riparian buffers. As well, the width of buffer protection in each MS4 Municipality differs from one to the next. The December 2007 Map indicates that impacts to riparian buffers by VTrans infrastructure is a direct result of waterway crossings by state highways and state highways having been historically constructed in close proximity to waterways. This mapping effort also shows that the District 5 Maintenance Facility, the only none linear facility located in a stormwater-impaired watershed (*Sunderland Brook Watershed*) does not impact the designated 50-foot riparian buffer.

VTrans has reviewed riparian buffer and stream fluvial geomorphologic information provided by the Agency as a result of the Agency’s preparation of the Potash Brook TMDL. The goal is to look at reducing impacts of impervious surfaces on stream corridors and buffers and to enhance or increase buffers to the maximum extent practicable. For VTrans, that means reducing state highway impervious surfaces within our linear right-of-way. This is difficult to achieve for a non-traditional/linear MS4. VTrans is a transportation agency with a mission/obligation to safely transport people and goods and maintain existing infrastructure. Reducing impervious surface within our linear right-of-way is difficult because of the purpose and need for the state highway system in meeting transportation demands and safety mandates. The Map gives a good indication of how the VTrans linear based MS4 influences riparian corridors (*see attached December 2007 Map*).

VTrans has also reviewed the Potash Brook Watershed Restoration Plan (Pioneer 2003 Report) and has taken note of various opportunities for streambank and riparian zone restoration. Some have been addressed and others are scheduled for corrective maintenance actions in the 2008 construction season (*refer to attached Section 6.2 of the Potash Brook Restoration Plan and Section of Map included in the Report*).

In May of 2007, the Agency released for public comment four draft Stormwater TMDLs including Centennial Brook, Bartlett Brook, Englesby Brook, and Morehouse Brook. The goal under each of these TMDLs, as is the same for the Potash Brook TMDL, is “to address the controlling factor of instream sediment production by determining the departure of existing discharge characteristics in each of these Brooks from attainment stream discharge characteristics and to set flow reduction targets to allow for the reestablishment of good habitat conditions throughout the stream in order to meet VTWQS”. VTrans does anticipate further coordination under these TMDLs with the Agency in the upcoming year.

Removal of impervious surface along the state highway system is not a feasible nor practicable option for VTrans given the linear nature of infrastructure under VTrans control. VTrans is, however, committed to looking at existing road crossings and buffer encroachments for bank stability and vegetation management opportunities to enhance stream/riparian corridors. In fact, VTrans has recently developed Best Management Practices (*BMPs*) for Riparian Tree and Brush Cutting (*copy attached*) and expects to finalize a BMP for Mowing within the State Highway Right-of-Way. Over the next year, VTrans will be developing more BMPs to manage vegetation, stormwater, and water quality. See discussion below under Section 4.2.5.1.2.2.1 for a more detailed discussion on BMPs.

**Section 4.2.5.1.2.2.1 reads:** “For those areas of stream corridors that have not been developed or otherwise converted to impervious surface, your plan should identify options for ensuring enhanced protection, which may include: (1) minimum widths of stream channel buffers requiring protections, and (2) minimum setback requirements, and (3) proposed planning and zoning regulations, municipal ordinances or codes, policies, or other requirements to enhance protection of undeveloped stream corridors.”

**VTrans Response:** As noted in our 11-29-2007 correspondence submitted to VANR in response to added Section 4.2.5.1.2.1, VTrans has very little, if any, ‘legal authority’ to protect and regulate development in the stream corridors of stormwater impaired waters. The Agency is not like Municipalities or the Agency of Natural Resources in that it can not adopt and enforce rules, regulations, or zoning codes to protect resources and manage growth.

➤ **VTrans Utility & Access Permitting:** The one legal tool VTrans does have comes from V.S.A. Title 19 “Highways”, Chapter 11 “Protection of Highways” under Section 1111 “Permitted Uses of the Right-of-Way”. Under this Statute, VTrans does regulate development and access within the highway right-of-way, by requiring an application, review and permit process for anyone wishing to perform work within or gain access to the highway right-of-way (*ie. curb cut onto state highway for subdivision or commercial development*). It is within this process where VTrans takes a proactive approach to help protect and regulate development in the stream corridors of stormwater impaired watersheds, not only in the MS4 area but statewide in all watersheds impacted by the State Highway System.

VTrans is in the process of considering updates to the “Special Conditions” that accompany the Section 1111 Permit issued by VTrans Utilities Section. The updates proposed clarify the requirements for Permittees to obtain and comply with all required Local, State and Federal Permits and resource protection guidance documents. These changes, to a process which already calls attention to the need for Local, State, and Federal Permitting, is expected to increase the awareness level of those applying for and reviewing Section 1111 Permits that there are other permitting programs out there that regulate development in stream buffers.

➤ **VTrans Operations Division Best Management Practices:** VTrans has and continues to develop and implement ‘strategies’ or “best management practices” to protect and self-regulate development and maintenance activities in stream corridors of stormwater impaired watersheds, not only in the MS4 area but statewide in all watersheds our state highways run through.

The final version of the “VTrans Operations State Highway Tree and Brush Removal Best Management Practices (BMP) for Riparian Areas” (*copy attached reformatted on 12/10/2007*) was put into place in August of 2007. This document suggests a minimum 50-foot undisturbed riparian corridor with few exceptions. It was developed under the MS4 mandate but is being used statewide. The BMP is based in large part on the research and experience of Operations Personnel and was finalized in consultation with ANR, who provided technical assistance and is identified in the BMP for consultation in some instances. Our “State Highway Mowing BMP”, is in the process of going through final edits and is expected to be adopted early in 2008. This BMP addresses avoidance of Riparian Buffers, Wetlands and other sensitive resources.

These BMPs are part of a larger environmental stewardship effort to prepare a statewide Agency Vegetation & Water Quality Management Plan. During the next several months we will be working with District Personnel and consulting with ANR on the development of additional BMPs related to stormwater, water quality, invasive species, guard rail maintenance, and seeding & landscaping in riparian areas as well as the entire state highway system. This work will, in addition to having water quality and habitat benefits, also save the agency money, conserve energy, reduce our carbon footprint, and address aesthetic concerns.

These BMPs are developed using the “Adaptive Management Approach” and are intended to be evolving documents that will take advantage of the latest practices and be updated to make adjustments for lessons learned and new technology. Other chapters to this Plan will be made available as they are developed and finalized.

**Section 4.2.5.1.2.2 reads:** “For those areas of stream corridors that have been developed or otherwise converted to impervious surfaces, your plan should identify options for stream corridor restoration, which may include: (1) restoring stream buffers, and (2) relocation of development outside stream corridor for redevelopment projects.”

- In order to achieve stream corridor restoration within VTrans state highway right-of-way, VTrans has and continues to develop and implement ‘strategies’ or “best management practices” to protect and self-regulate development and maintenance activities in stream corridors of stormwater impaired watersheds, not only in the MS4 area but statewide in all watersheds our State Highway runs through.
- Relocation of existing impervious surfaces associated with VTrans state highways outside stream corridors is not a feasible alternative for VTrans unless state highways are in need of re-alignment or reconstruction. During the design development process for roadway reconstruction projects, alternative roadway alignments can and are evaluated for the most practicable alternative considering impacts to all natural and cultural resources, State and Federal Regulatory Requirements, and applicable State and Federal Roadway and Bridge Design Standards.

This completes VTrans response to added Section 4.2.5.1.2.2. Feel free to contact me with any questions or requests for additional information. Your written response confirming receipt and the sufficiency of this document under the requirements of Section 4.2.5.1.2.2 would be appreciated.

Pusuant to GP-3-9014, Section 6.7. Signatory Requirements:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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Craig DiGiammarino,  
VTrans Operations Environmental Coordinator

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(date)

Attachments:

*December 2007 VTrans MS4 Stream Corridor Plan*  
*Section 6.2 of the Potash Brook Restoration Plan and Section of Map included in the Report*  
*VTrans Operations State Highway System Riparian Buffer Tree and Brush Removal Best Management Practices*

Ditribution (with attachments):

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