



One National Life Drive
Montpelier, VT, 05633-5001

802-828-2709 (VTrans)
802-828-1556 (ANR)

February 1, 2013

Re: Town Road and Bridge Standards

Dear Municipal Officials:

Please find attached the January 2013 State-approved Town Road and Bridge Standards.

This letter includes the following information:

1. Important background
2. A history of the Standards
3. Revisions included in the January 2013 State-approved Standards
4. Adoption and Certification of the State-approved Standards

Background

The state of Vermont encourages municipalities to follow the State-approved Standards for several reasons:

- ✓ Adherence to these Standards increases the likelihood that town roads and bridges will hold up during flooding or heavy rain events, thus saving money for municipalities in the long term and avoiding future repairs associated with poor drainage systems and erosion.
- ✓ When a federally declared disaster occurs, the Federal Emergency Management Agency (FEMA) will use a municipality's duly adopted "codes and standards" when determining eligible repair work under the FEMA Public Assistance program.
- ✓ The State-approved Standards address water quality associated with roadway run-off. Many of the state's rivers, streams, and lakes are affected by stormwater and sediment loading from roadways. The practices described in these standards have been proven to be cost effective in reducing pollution.
- ✓ Municipalities who certify adoption of these Standards benefit from a 10% instead of 20% local match requirement for the total costs of a project funded under the Town Highway Structures and Class 2 Roadway grant programs.
- ✓ Beginning in October 2014, municipalities who certify adoption of the State-approved Standards, as part of a basic set of flood damage mitigation measures, will be eligible to receive a 12.5% instead of 7.5% state share of the FEMA-approved total project cost under the FEMA Public Assistance program.



- ✓ These Standards represent the best technical knowledge of the Agency of Natural Resource and VTrans balanced with practical considerations. They are recommended minimums only. Municipalities *are not required* to adopt the Standards. Several have chosen to adopt more detailed and stringent standards.
- ✓ These Standards are not meant to describe all necessary planning and decision-making associated with transportation infrastructure. Additional information for managing transportation infrastructure is available from the VT Local Roads Program, the Regional Planning Commission that serves your municipality, the Vermont Better Back Roads Program, and the nearest VTrans District technical staff.

History of the VTrans Town Road and Bridge Standards

In the spring of 1999, FEMA adopted a new policy which required municipalities to adopt “codes and standards” prior to a Public Assistance disaster declaration in order for a municipality to be eligible for certain FEMA benefits related to facility upgrades that are not governed by eligible state or federal codes or standards. As a result of that policy change, VTrans and Vermont Emergency Management (VEM) began working with FEMA, regional planning commissions, the Vermont Local Roads program, the Vermont League of Cities and Towns, and ANR on the development of a standard template of minimum codes and standards. By the summer of 1999, towns began adopting road and bridge codes and standards based on the template developed by this group.

Act 110 of the 2009 – 2010 Legislative session modified 19 V.S.A. § 309b to include an incentive program which allowed for increased state share of funding to municipalities receiving grants under the Town Highway Class 2 Roadway and Town Highway Structures grants programs. In order to receive an additional 10% of state funding for projects under each of these grant programs, municipalities need to meet two requirements. The first requirement is to adopt roadway and bridge codes and standards that address water quality and the second requirement is to conduct and update a network infrastructure study.

Up until 2011, the only changes to the original 1999 template included a language modification that *prohibited a municipality from using a fiscal reason as a basis for modifying the standards for a specific project and the requirement for the municipality to submit an annual certification of compliance to VTrans*. Both of these changes were in response to issues associated with FEMA reimbursement. FEMA insists that towns not modify “codes and standards” for fiscal reasons. Also the certification of compliance with the recommended codes and standards was implemented following the series of FEMA declarations in 2008, when a number of municipalities that had adopted codes and standards could not produce a copy of their adoption documents when asked by FEMA.

Act 110 of the 2009-2010 session required that VTrans work with municipal representatives to “revise the Agency’s current recommended town road and bridge standards to include a suite of practical and cost-effective Best Management Practices (BMPs) for the construction, maintenance, and repair of all existing and future town highways in order to address pollution caused by transportation-related stormwater runoff.” Those recommended Standards as represented in the January 2011 version of the Vermont Town



Road and Bridge Standards and all subsequent revisions must be approved by the Secretary of ANR. Additionally, Act 110 amended 19 V.S.A. § 309b(a) & (b) requiring that municipalities submit the annual certification of compliance in order to be eligible for receiving the additional 10% of State funding under the town highway structures and Class 2 roadway grants programs.

Revisions included in the January 2013 State-approved Standards

Act 110 also requires that “Beginning January 15th, 2013 and every four years thereafter, VTrans, in consultation with municipal representatives and with ANR approval, shall review and revise, as appropriate the town road and bridge standards in order to ensure the standards are protective of water quality.” The 2013 revisions meet this requirement. In addition there are revisions to the bridges and culverts section aimed at avoiding future confusion related to FEMA reimbursement. The Standards now clearly state the longstanding requirement that culvert replacements must conform to the State’s Stream Alteration regulatory standards.

Summary of the 2013 revisions to the State-approved Standards:

- Clarification regarding erosion control and roadside ditch construction and maintenance.
- New language describing basic side slope treatments so that these treatments are part of a municipality’s “codes and standards” and eligible for FEMA reimbursement.
- Changes in the bridge and culvert section including the removal of the reference to the Q 25 and a reference to the VTrans hydraulic manual in the appropriate sizing of culverts and instead clarifying that culverts conform to the state’s Stream Alteration Standard, a standard in effect today.
- A statement that the municipality must obtain all applicable state and federal permits for any work subject to the permits.

Adoption and Certification

Class Two Roadway and Town Highway Structures Grants Match Benefit

In order for municipalities to receive an additional 10% state funding (80% for Class 2 Roadway grants and 90% for Town Highway Structures grants) starting with State fiscal year 2015 (July 1, 2014), municipalities must adopt new codes and standards which meet or exceed the minimum requirements of the January 2013 State-approved Standards and must submit an annual certification to VTrans that their adopted codes and standards meet or exceed these minimum requirements. Municipalities have the choice of using either the January 2011 or 2013 versions of the State-approved Standards for projects in fiscal year 2014 (July 1, 2013).

FEMA Reimbursement for Federally Declared Disasters

As stated previously, municipal adoption, certification, and adherence to municipal “codes and standards” can provide a municipality with the necessary FEMA funding during FEMA Public Assistance declarations. Without municipal “codes and standards,” FEMA generally will only provide funding that will rebuild to the conditions in place prior to the disaster if state or federal codes and standards do not apply to the project. *We strongly recommend that municipalities adopt the January 2013 codes and standards as soon as possible in order for municipalities to be covered for the next FEMA declared disaster.*



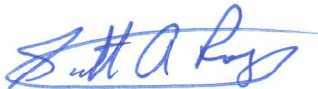
Federally Declared Disaster State Share Benefit

Municipalities must adopt the January 2013 State-approved Standards to be eligible for the 12.5% *state share* of the FEMA-approved total project cost under the FEMA Public Assistance program beginning after October 2014. Municipalities without adopted “codes and standards,” or with adopted “codes and standards” that differ from or that do not meet or exceed the State-approved Standards, will be eligible to receive only a 7.5% state share of the FEMA-approved total project costs.

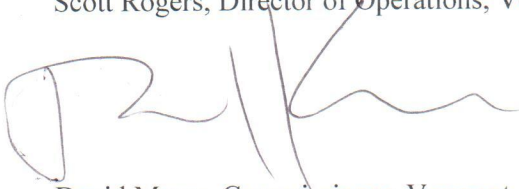
If a municipality decides for whatever reason not to adopt the January 2013 State-approved Standards, it would be prudent to at a minimum adopt the *Culverts and Bridges* portion in the 2013 version and any other elements under the *Roadways* or *Ditches and Slopes* sections such as side slopes and ditching where the municipality would expect reimbursement to this standard under a FEMA-declared emergency. The VTrans Maintenance District personnel are available to work with any municipalities in explaining the options. If the municipality is hesitant to adopt the full State-approved Standards and chooses not to be eligible for the incentives, other options are possible, although the consequences must be carefully considered. Please contact your nearest District Office for assistance and information. (See attached figure 1 Maintenance District map and contact information.)

Our agencies look forward to working with you and providing the assistance needed to manage a municipal transportation network that is safe and flood resilient in the future.

Sincerely,



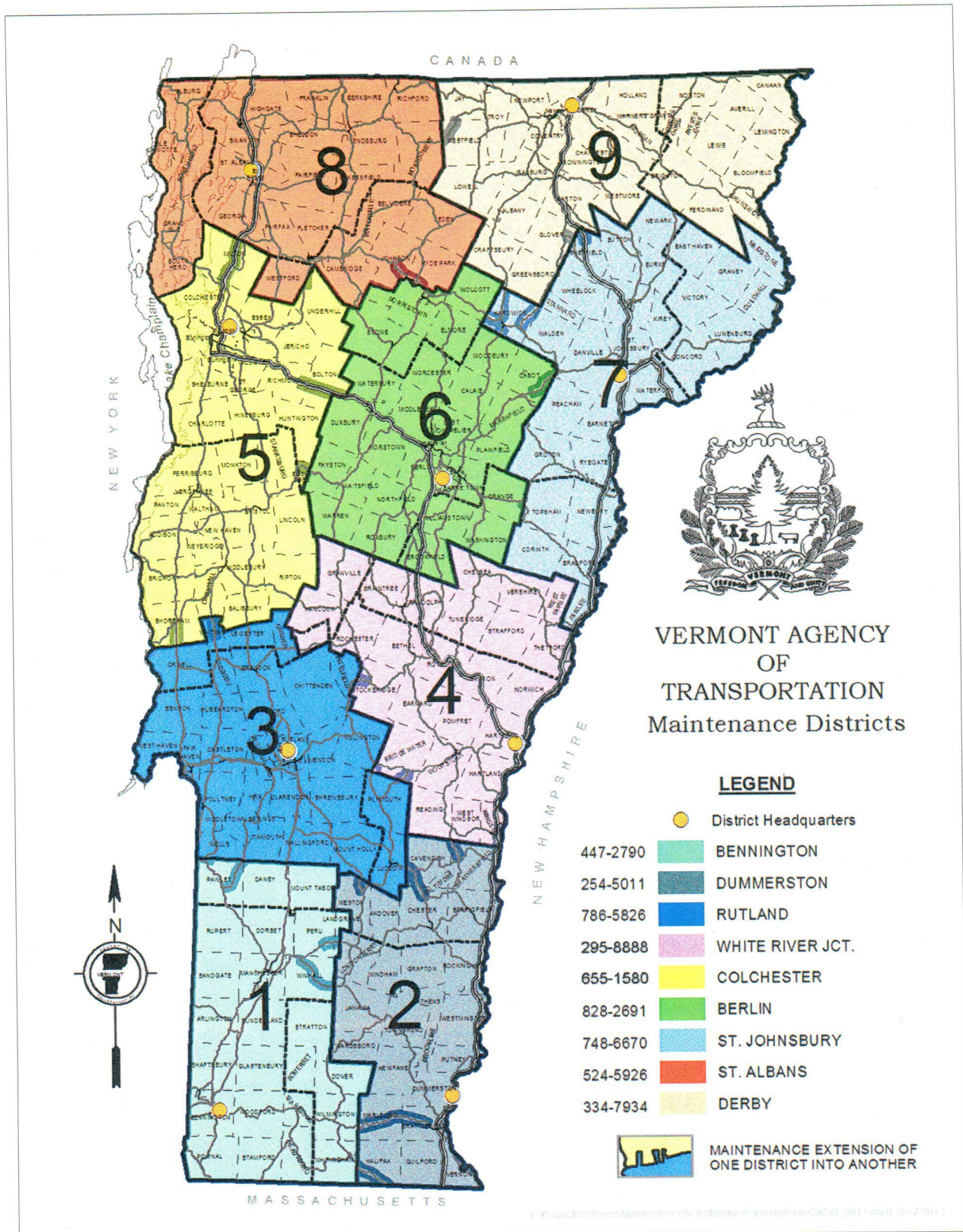
Scott Rogers, Director of Operations, Vermont Agency of Transportation



David Mears, Commissioner, Vermont Agency of Natural resources Department of Environmental Conservation



Figure 1



TOWN ROAD AND BRIDGE STANDARDS TOWN OF _____, VERMONT

The Town of _____ hereby adopts the following Town Road and Bridge Standards which shall apply to the construction, repair, and maintenance of all town roads and bridges.

The standards listed here are considered minimum and apply to construction projects and repair and maintenance activities. The standards include management practices and are designed to: ensure the safety of the traveling public, minimize damage to road infrastructure during flood events, and enhance water quality protections by minimizing sediment delivery to surface waters and/or wetlands.

The select board reserves the right to modify the standards for a particular project or repair or maintenance activities where, because of unique physical circumstances or conditions, there is no possibility that the project or activities can be completed in strict conformance with these provisions. Any modifications to the standards must be done in a manner that serves the underlying intent of the management practice, be it public safety, flood hazard avoidance, or water quality protection. Fiscal reasons are not a basis for modification of the standards. Questions about modifications to the standards should be directed to the VTrans District Office.

Municipalities must comply with all applicable state and federal approvals, permits and duly adopted standards when undertaking road and bridge activities and projects.

Any new road regulated by and/or to be conveyed to the municipality shall be constructed according to the minimums of these standards. If any federal and/or state funding is involved in a project, the VTrans district office must be notified prior to any field changes taking place that would alter the original scope of work.

Roadways

- All new or substantially reconstructed gravel roads shall have at least a 12-inches thick processed gravel sub-base, with an additional 3 inches (minimum) top course of crushed gravel.
- All new or substantially reconstructed paved roads shall have at least a 15 inches thick processed gravel sub-base.
- All roadways shall be graded so water does not remain on the road surface. For roadways that are not super-elevated, this generally means a 2-4% ($\frac{1}{4}$ " - $\frac{1}{2}$ " per ft) crown for gravel roads and a 1-2% ($\frac{1}{8}$ " - $\frac{1}{4}$ " per ft) crown for paved roads to promote sheeting of water.
- Proper grading techniques for gravel roadways must be used to avoid creating a ridge or berm between the crown and the ditch.
- Any berm along the roadway shoulder that prevents the proper sheeting of water must be removed.

Ditches and Slopes

Soil exposed during ditch and slope construction, repair or maintenance must be treated immediately following the operation and temporary erosion prevention and sediment control practices must be installed and maintained during construction activities and until the ditch or slope is permanently stabilized.

The following are minimum erosion control measures. Careful attention must be given to areas vulnerable to erosion and immediately adjacent or discharging to surface waters and/or roadway drainage facilities:

- Seed and mulch all ditches with grades less than 5% when undertaking projects or repairs or maintenance activities that result in exposed soil. Vegetation must be established and monitored. If vegetation is not established within 10 days of placement, install biodegradable non-welded matting with seed.
- Stone line all new or reconstructed ditches or whenever soils are disturbed by maintenance activities with grades equal to and greater than 5%; alternatively, install stone check dams. The check dams must meet criteria outlined in the “*Standards and Specifications for Check Dams*,” from the *Vermont Standards and Specifications for Erosion Prevention and Sediment Control*. Specifically, dams must be placed so that the crest of the downstream check dam is at the same elevation as the base of the upstream dam.
- Create parabolic (wide “U” shaped) ditches when constructing new or substantially reconstructing ditches, rather than narrow “V” shaped ditches wherever lateral space allows. Ditches with gradual side slopes (maximum of 1:2, vertical to horizontal ratio) and a wide bottom (at least 2 feet) are preferred. Use biodegradable, non-welded matting to stabilize side-slopes where slopes are greater than 1:2 and less than 1:1 ½; apply seed and mulch to any raw or exposed side-slope if slopes are less than 1:2.
- All ditches must be turned out to avoid direct outlet into surface waters. There must be adequate outlet protection at the end of the turnout, either a structural (rock) or vegetative filtering area.
- If in the best professional engineering judgment of the VTrans Operations Division, there is a cost effective ditch treatment that will meet the intent of the management practices described above, but represents a departure from these standards, the municipality may implement the more cost effective ditch treatment alternative with the professional recommendation submitted in written form by VTrans prior to the municipality executing the work.
- When constructing new or substantially reconstructing side slopes, use appropriately sized stone armament on slopes that are 1:1½ or greater. If perennial streams are affected by the toe of slope the project must conform to the statewide Stream Alteration standards.

Culverts and Bridges

- Replacement of existing culverts and any new culvert must have a minimum culvert diameter of 18 inches.
- Replacement of existing bridges and culverts and any new bridges and culverts must be designed in accordance with the VTrans Hydraulics Manual, and, in the case of perennial streams, conform to the statewide Stream Alteration standards.
- All new driveway culverts must have a minimum diameter of 15 inches.
- When installing or replacing culverts, use appropriate techniques such as headwalls and wingwalls, where there is erosion or undermining or where it is expected to occur.
- Install a splash pad or plunge pool at the outlet of new or repaired drainage culverts where there is erosion or where erosion may occur. Splash pads and plunge pools are not appropriate for use in streams supporting aquatic life.

Guardrails

When roadway, culvert, bridge, or retaining wall construction or reconstruction projects result in hazards such as foreslopes, drop offs, or fixed obstacles within the designated clear-zone, a roadside barrier such as guardrail must be installed. The most current version of the AASHTO Roadside Design Guide will govern the analysis of the hazard and the subsequent treatment of that hazard.

Access Management

The town must have a process in place, formal or informal, to review all new drive accesses and development roads where they intersect Town roads, as authorized under 19 V.S.A. Section 1111. Towns may reference VTrans A-76 Standards for Town & Development Roads and B-71 Standards for Residential and Commercial Drives; and the VTrans Access Management Program Guidelines for other design standards and specifications.

Training

Town highway maintenance crews must collectively attend a minimum total of 6 hours of training per year on best road management practices. The town must keep documentation of their attendance for a period of three years.

Passed and adopted by the Selectboard of the Town of _____, State of Vermont on _____, 20 .

Select Board: _____

