Maintain backroads and ditches to specifications

From rural farmhouse properties to pockets of deep woods, Vermont's unpaved roads take us through the unique areas of the state that make it so attractive.

While the view from the road changes around each bend, many of the elements of a good road should not. The crown, slope, radius of curves, mowed or cleared zone width, and even speed limits are based on the landscape of the road, the topography it covers, and the traffic it receives.

Recommendations

Refer to the *Vermont Better Roads Manual* [1] for best practices regarding road construction and maintenance. Another useful resource is the *Gravel Road Maintenance Manual* [2] published by the Kennebec County Soil and Water Conservation District and the Maine Department of Environmental Protection.

When possible, design ditches on only one side of the road to reduce impact of tree removal. Mature trees provide more stormwater reduction (20 cubic feet per tree) than newly planted trees (10 cubic feet per tree).[3]

Ensure that clearing work occurs when invasive plants are not in seed and that soil containing invasive plant fragments is not moved to a site free of invasive plants (see Phenology and Management Calendar of 12 Common Roadside Invasive Plant Species on page 30).

Avoid clearing the backslope, or uphill slope next to a ditch. Plant roots in this soil keep the slope in place. To widen a ditch, push the travel lane further to the opposite side of the road where possible or reduce the travel lane width. If a backslope is disturbed during ditch mainteance or constrution, seed backslopes with a hydroseeder and tackifier to promote immediate vegetative cover.

Avoid putting stone fill on ditch side slopes that are above the flow line where the slopes can be stabilized with vegetation instead.

1. Vermont Agency of Transportation, *Vermont Better Roads Manual* (January 2019), bit.ly/VT_BetterRoadsManual.

2. Kennebec County Soil and Water Conservation District and the Maine Department of Environmental Protection, *Gravel Road Maintenance Manual: A Guide for Landowners on Camp and Other Gravel Roads* (April 2016), bit.ly/Maine_GravelRoads.

3. Stone Environmental, *Stormwater Management Benefits of Trees* (2014), bit.ly/VT_TreesAndStormwater.

Remove grader berms. These mounds of gravel, dirt, leaves, and sticks are left behind after the grader passes and ultimately impede the flow of stormwater into naturally vegetated areas.

Consult the Vermont State Design Standards[4] for minimum widths of lanes and shoulders for rural local roads, including the table pictured below, adapted from the standards. Consider carefully if or why a backroad should have a width greater than the minimum before proceeding to widen a road.

4. Vermont Agency of Transportation, *Vermont State Design Standards* (1997), bit.ly/VT_RoadStandards.

Minimum width of lanes and shoulders for rural local roads

Design Traffic Volume	ADT[(a)] 0–25	ADT 25–50	ADT 50–100	ADT 100–400	ADT 400–1500	ADT 1500–2000	ADT 2000+
Design Speed	Width of Lane / Shoulder (ft)						
25 mph	7 / 0	8 / 0	9 / 0	9 / 2	9 / 2	10 / 3	11 / 3
30 mph	7 / 0	8 / 0	9 / 0	9 / 2	9 / 2	10 / 3	11 / 3
35 mph	7 / 0	8 / 0	9 / 0	9 / 2	9 / 2	10 / 3	11 / 3
40 mph	7 / 0	8 / 0	9 / 2	9 / 2	9 / 2	10 / 3	11 / 3
45 mph	—	—	9 / 2	9 / 2	9 / 2	10 / 3	11 / 3
50 mph	—	—	9 / 2	9 / 2	10 / 2	10 / 3	11 / 3

Note: ADT = Average Daily Traffic: the average number of vehicles passing a specific point in both directions during a 24-hour period. (a) = Minimum width of 8/0 wherever there is guard rail. Vermont Agency of Transportation, *Vermont State Design Standards* (1997), bit.ly/VT_RoadStandards.