

## Soil-based Residential Wastewater Disposal Ratings (VT)

Orleans County, Vermont

[These ratings are based on a review of criteria set forth in the Vermont 2007 Environmental Protection Rules]

Suitability subgroup	Map symbol	Soil map unit name
IVa	2A	Peacham muck, 0 to 3 percent slopes, very stony
IIc	3B	Vershire-Lombard complex, 3 to 8 percent slopes, rocky
IIc	3C	Vershire-Lombard complex, 8 to 15 percent slopes, rocky
IIId	3D	Vershire-Lombard complex, 15 to 25 percent slopes, rocky
IIh	5B	Nicholville very fine sandy loam, 3 to 8 percent slopes
IIh	5C	Nicholville very fine sandy loam, 8 to 15 percent slopes
IIIe	5D	Nicholville very fine sandy loam, 15 to 25 percent slopes
IIc	6B	Vershire-Lombard complex, 3 to 8 percent slopes, very stony
IIc	6C	Vershire-Lombard complex, 8 to 15 percent slopes, very stony
IIId	6D	Vershire-Lombard complex, 15 to 35 percent slopes, very stony
IVa	8A	Roundabout silt loam, 0 to 3 percent slopes
IIc	12C	Tunbridge-Lyman complex, 8 to 15 percent slopes, very rocky
IIId	12D	Tunbridge-Lyman complex, 15 to 35 percent slopes, very rocky
IVb	12E	Tunbridge-Lyman complex, 35 to 60 percent slopes, very rocky
IIh	14A	Irasburg loamy fine sand, 0 to 3 percent slopes
IIh	14B	Irasburg loamy fine sand, 3 to 8 percent slopes
IIh	14C	Irasburg loamy fine sand, 8 to 15 percent slopes
IIIe	14D	Irasburg loamy fine sand, 15 to 25 percent slopes
IVd	14E	Irasburg loamy fine sand, 25 to 50 percent slopes
IIh	15B	Dixfield sandy loam, 3 to 8 percent slopes
IIh	15C	Dixfield sandy loam, 8 to 15 percent slopes
IIIe	15D	Dixfield sandy loam, 15 to 25 percent slopes
IIh	16B	Dixfield sandy loam, 3 to 8 percent slopes, very stony
IIh	16C	Dixfield sandy loam, 8 to 15 percent slopes, very stony
IIIe	16D	Dixfield sandy loam, 15 to 35 percent slopes, very stony
IVd	16E	Dixfield sandy loam, 35 to 60 percent slopes, very stony
IIIc	17B	Buckland fine sandy loam, 3 to 8 percent slopes
IIIId	17C	Buckland fine sandy loam, 8 to 15 percent slopes
IIIe	17D	Buckland fine sandy loam, 15 to 25 percent slopes
IIIc	18B	Buckland fine sandy loam, 3 to 8 percent slopes, very stony
IIIId	18C	Buckland fine sandy loam, 8 to 15 percent slopes, very stony
IIIe	18D	Buckland fine sandy loam, 15 to 35 percent slopes, very stony
IVd	18E	Buckland fine sandy loam, 35 to 60 percent slopes, very stony
IVa	21A	Nasmith loamy fine sand, 0 to 3 percent slopes
V	25	Pits, sand and Pits, gravel

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Suitability subgroup	Map symbol	Soil map unit name
Ia	26A	Adams loamy fine sand, 0 to 3 percent slopes
Ia	26B	Adams loamy fine sand, 3 to 8 percent slopes
Ia	26C	Adams loamy fine sand, 8 to 15 percent slopes
Ib	26D	Adams loamy fine sand, 15 to 25 percent slopes
IIe	26E	Adams loamy fine sand, 25 to 60 percent slopes
IIh	27A	Croghan loamy fine sand, 0 to 3 percent slopes
IIh	27B	Croghan loamy fine sand, 3 to 8 percent slopes
IIh	31A	Sheepscot gravelly fine sandy loam, 0 to 3 percent slopes
IIh	31B	Sheepscot gravelly fine sandy loam, 3 to 8 percent slopes
IVa	33A	Moosilauke very fine sandy loam, 0 to 3 percent slopes
Ia	38A	Colton-Duxbury complex, 0 to 3 percent slopes
Ia	38B	Colton-Duxbury complex, 3 to 8 percent slopes
Ia	38C	Colton-Duxbury complex, 8 to 15 percent slopes
Ib	38D	Colton-Duxbury complex, 15 to 25 percent slopes
IIe	38E	Colton-Duxbury complex, 25 to 60 percent slopes
IVa	47A	Cabot silt loam, 0 to 3 percent slopes
IVa	47B	Cabot silt loam, 3 to 8 percent slopes
IIId	47C	Cabot silt loam, 8 to 15 percent slopes
IVa	50A	Scantic silt loam, 0 to 3 percent slopes
Ic	54B	Salmon very fine sandy loam, 3 to 8 percent slopes
Ic	54C	Salmon very fine sandy loam, 8 to 15 percent slopes
Id	54D	Salmon very fine sandy loam, 15 to 25 percent slopes
IIIf	54E	Salmon very fine sandy loam, 25 to 50 percent slopes
IIIf	58B	Lamoine silt loam, 3 to 8 percent slopes
IIId	58C	Lamoine silt loam, 8 to 15 percent slopes
IIIe	58D	Lamoine silt loam, 15 to 25 percent slopes
IVd	58E	Lamoine silt loam, 25 to 50 percent slopes
IVa	59B	Cabot silt loam, 0 to 8 percent slopes, very stony
IIId	59C	Cabot silt loam, 8 to 15 percent slopes, very stony
IVa	60A	Rumney fine sandy loam, 0 to 2 percent slopes, frequently flooded
IVa	70A	Bucksport muck, 0 to 2 percent slopes, ponded
IVa	72A	Charles silt loam, 0 to 2 percent slopes, frequently flooded
IIIb	76A	Podunk fine sandy loam, 0 to 2 percent slopes, occasionally flooded
IVa	79A	Medomak mucky silt loam, 0 to 2 percent slopes, frequently flooded
IVa	83A	Wonsqueak and Pondicherry mucks, 0 to 2 percent slopes
IVa	84A	Bucksport muck, 0 to 2 percent slopes

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Suitability subgroup	Map symbol	Soil map unit name
IVc	88D	Lyman-Rock outcrop complex, 15 to 35 percent slopes, very stony
IVb	88F	Lyman-Rock outcrop complex, 60 to 90 percent slopes, very stony
Ic	92B	Monadnock fine sandy loam, 3 to 8 percent slopes
Ic	92C	Monadnock fine sandy loam, 8 to 15 percent slopes
Id	92D	Monadnock fine sandy loam, 15 to 25 percent slopes
Ic	93B	Monadnock fine sandy loam, 3 to 8 percent slopes, very stony
Ic	93C	Monadnock fine sandy loam, 8 to 15 percent slopes, very stony
Id	93D	Monadnock fine sandy loam, 15 to 35 percent slopes, very stony
IIIf	93E	Monadnock fine sandy loam, 35 to 60 percent slopes, very stony
IIc	94C	Vershire-Glover complex, 8 to 15 percent slopes, very rocky
IIId	94D	Vershire-Glover complex, 15 to 35 percent slopes, very rocky
IVb	94E	Vershire-Glover complex, 35 to 60 percent slopes, very rocky
Ic	96B	Dummerston very fine sandy loam, 3 to 8 percent slopes
Ic	96C	Dummerston very fine sandy loam, 8 to 15 percent slopes
Id	96D	Dummerston very fine sandy loam, 15 to 25 percent slopes
Ic	97B	Dummerston very fine sandy loam, 3 to 8 percent slopes, very stony
Ic	97C	Dummerston very fine sandy loam, 8 to 15 percent slopes, very stony
Id	97D	Dummerston very fine sandy loam, 15 to 35 percent slopes, very stony
IIIf	97E	Dummerston very fine sandy loam, 35 to 60 percent slopes, very stony
IIIf	100B	Tunbridge-Dixfield complex, 3 to 8 percent slopes, rocky
IIIf	100C	Tunbridge-Dixfield complex, 8 to 15 percent slopes, rocky
IIIf	100D	Tunbridge-Dixfield complex, 15 to 25 percent slopes, rocky
IIIf	101B	Tunbridge-Dixfield complex, 3 to 8 percent slopes, very stony
IIIf	101C	Tunbridge-Dixfield complex, 8 to 15 percent slopes, very stony
IIIf	101D	Tunbridge-Dixfield complex, 15 to 35 percent slopes, very stony
IVb	101E	Tunbridge-Dixfield complex, 35 to 60 percent slopes, very stony
V	104B	Urban land-Adams-Nicholville complex, 0 to 8 percent slopes
V	104C	Urban land-Adams-Nicholville complex, 8 to 15 percent slopes
V	104D	Urban land-Adams-Nicholville complex, 15 to 25 percent slopes
V	105	Dumps, landfill
V	106	Pits, quarry-Dumps, mine complex
IIIIa	112D	Hogback-Rawsonville complex, 15 to 35 percent slopes, very rocky
IVb	112E	Hogback-Rawsonville complex, 35 to 60 percent slopes, very rocky
IVb	210E	Ricker-Londonderry-Stratton complex, 35 to 60 percent slopes, very rocky
IVb	211F	Ricker-Londonderry-Rock outcrop complex, 60 to 90 percent slopes
IIIIc	247B	Colonel-Cabot complex, 3 to 8 percent slopes

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IIId	247C	Colonel-Cabot complex, 8 to 15 percent slopes
IIIe	247D	Colonel-Cabot complex, 15 to 25 percent slopes
IIIc	259B	Colonel-Cabot complex, 3 to 8 percent slopes, very stony
IIId	259C	Colonel-Cabot complex, 8 to 15 percent slopes, very stony
IIIe	259D	Colonel-Cabot complex, 15 to 35 percent slopes, very stony
V	260F	Udorthents, 60 to 90 percent slopes, very rubbly
IIIf	301C	Tunbridge-Dixfield complex, 3 to 15 percent slopes, extremely bouldery
IIIf	301D	Tunbridge-Dixfield complex, 15 to 35 percent slopes, extremely bouldery
IVb	301E	Tunbridge-Dixfield complex, 35 to 60 percent slopes, extremely bouldery
IIh	316C	Dixfield sandy loam, 3 to 15 percent slopes, extremely bouldery
IIIe	316D	Dixfield sandy loam, 15 to 35 percent slopes, extremely bouldery
IVd	316E	Dixfield sandy loam, 35 to 60 percent slopes, extremely bouldery
IIId	359C	Cabot silt loam, 3 to 15 percent slopes, extremely bouldery
Id	393D	Monadnock fine sandy loam, 15 to 35 percent slopes, extremely bouldery
IIIf	393E	Monadnock fine sandy loam, 35 to 60 percent slopes, extremely bouldery
V	W	Water

## Soil-based Residential Wastewater Disposal Ratings (VT)

This table indicates the suitability of the soils in the survey area for residential onsite waste disposal systems. The ratings in the table are based on the 2007 Vermont Environmental Protection Rules (Vermont Department of Environmental Conservation, Agency of Natural Resources). This rating system replaces that in the publication "Ancillary Soil Interpretation Ratings for On-site Sewage Disposal in Vermont," published in January 1997 by the Natural Resources Conservation Service.

Included in onsite waste disposal systems are absorption fields, also known as leach fields, or trenches in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Unsatisfactory performance, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health.

The ratings are represented by symbols for five interpretive groups and their subgroups. These groups and subgroups are described in the following paragraphs.

Group I soils are well suited to soil-based wastewater disposal systems. Good performance and low maintenance can be expected. The soils in this group are sandy and gravelly soils that formed in outwash and that have rapid permeability in the substratum and well drained soils that formed in till and that have a friable substratum with moderate permeability. Slopes generally are less than 20 percent.

- Map units in subgroup Ia have rapid permeability and slopes of less than 20 percent.
- Map units in subgroup Ib have rapid permeability and have slopes that range to more than 20 percent.
- Map units in subgroup Ic have moderate permeability and slopes of less than 20 percent.
- Map units in subgroup Id have moderate permeability and have slopes that range to more than 20 percent.

Group II soils are moderately suited to soil-based wastewater disposal systems. The group includes soils with moderately slow to very slow permeability; complexes in which one or more of the soils have bedrock at a moderate depth (20 to 40 inches); soils that would qualify for inclusion in group I but have slopes of more than 20 percent; soils that are subject to flooding; and soils that have a seasonal high water table at a depth of 18 inches or more.

- Map units in subgroup IIa have moderately slow to very slow permeability and slopes of less than 20 percent.
- Map units in subgroup IIb have moderately slow to very slow permeability and have slopes that range to more than 20 percent.
- Map units in subgroup IIc have bedrock at a moderate depth (20 to 40 inches) in some areas and have slopes of less than 20 percent.
- Map units in subgroup IId have bedrock at a moderate depth (20 to 40 inches) and have slopes that range to more than 20 percent.
- Map units in subgroup IIe have rapid permeability and slopes of more than 20 percent.
- Map units in subgroup IIf have moderate permeability and slopes of more than 20 percent.
- Map units previously assigned to subgroup IIg have been re-assigned to subgroup IIIg.
- Map units in subgroup IIh have a seasonal high water table at a depth of 18 inches or more and have slopes of less than 20 percent.

Group III map units are marginally suited to soil-based wastewater disposal systems. Intensive onsite investigation may be needed to locate suitable areas, or special design, extra maintenance, or costly alteration may be needed to overcome the soil-related limitations. In areas where the water table is at a shallow depth, seasonal onsite monitoring of the water table may be needed to determine whether the site is suitable. Some areas of any of the map units in group III may not be suitable for onsite waste disposal systems.

- Map units in subgroup IIIa have bedrock at a depth of less than 10 inches in some areas. Some map units are limited by slopes that range to more than 20 percent.
- Map units in subgroup IIIb are subject to flooding and have a seasonal high water table at a moderate depth.
- Map units in subgroup IIIc have a seasonal high water table at a depth of 1 foot or less and have slopes of 8 percent or less.
- Map units in subgroup IIId have a seasonal high water table at a depth of 1 foot or less and have slopes of 8 to 20 percent.
- Map units in subgroup IIIe generally have a seasonal high water table within a depth of 2 feet and have slopes that range to more than 20 percent.
- Map units in subgroup IIIf have a seasonal high water table and limited depth to bedrock. Some map units have slopes that range to more than 20 percent.
- Map units in subgroup IIIg are subject to flooding.

Group IV map units are not suited to soil-based wastewater disposal systems because of such limitations as wetness, depth to bedrock, restricted permeability, or slope.

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- Map units in subgroup IVa are subject to excessive wetness.
- Map units in subgroup IVb are limited by the depth to bedrock and by slopes of more than 20 percent.
- Map units in subgroup IVc are not suited because of a very limited depth to bedrock and the slope.
- Map units in subgroup IVd have moderately slow to very slow permeability and have slopes of more than 20 percent. Some map units have a seasonal high water table.

Group V map units are not rated for soil-based wastewater disposal systems. This group includes miscellaneous areas that have been filled, excavated, regraded, or otherwise disturbed by human activities; areas that are mapped above the series level, such as Udorthents; and areas of water. The miscellaneous areas and the areas mapped above the series level have a wide range of soil properties. Onsite investigation is needed to determine the suitability of these areas for onsite waste disposal.

The ratings in this report are based on the installation of a new septic system for a new single-family home on a lot subdivided on or after June 14, 2002, in a municipality that has planning and zoning bylaws. The ratings do not necessarily apply to the siting of a replacement system for an existing residence. The ratings for lots subdivided before June 14, 2002, are based on a slope limitation of 30 percent, whereas the ratings in this table are based on a slope limitation of 20 percent. The ratings in this table do not take into consideration some site factors that can affect the placement of septic systems, such as wellhead and source protection areas, isolation distances, and the size of the parcel.

This table is intended for general planning purposes only and is not intended to replace or supercede an onsite soil investigation. These ratings apply only to land within the State of Vermont.