Soil-based Residential Wastewater Disposal Ratings (VT)

Grand Isle 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
IIh	AaA	Amenia silt loam, 0 to 3 percent slopes
IIh	AaB	Amenia silt loam, 3 to 8 percent slopes
IIh	AaC	Amenia silt loam, 8 to 15 percent slopes
IIh	AbA	Amenia very stony silt loam, 0 to 3 percent slopes
IIh	AbB	Amenia very stony silt loam, 3 to 8 percent slopes
IIh	AbC	Amenia very stony silt loam, 8 to 15 percent slopes
V	BaA	Balch peat
V	Bb	Beach and Dune sand
IVc	BcA	Benson rocky loam, over massive limestone, 0 to 3 percent slopes
IVc	BcB	Benson rocky loam, over massive limestone, 3 to 8 percent slopes
IVc	BcC	Benson rocky loam, over massive limestone, 8 to 15 percent slopes
IVc	BdA	Benson very rocky loam, over massive limestone, 0 to 3 percent slopes
IVc	BdB	Benson very rocky loam, over massive limestone, 3 to 8 percent slopes
IVc	BdC	Benson very rocky loam, over massive limestone, 8 to 15 percent slopes
IVc	BdD	Benson very rocky loam, over massive limestone, 15 to 25 percent slopes
IVb	BdE	Benson very rocky loam, over massive limestone, 25 to 35 percent slopes
IVc	BeA	Benson rocky silt loam, over shaly limestone, 0 to 3 percent slopes
IVc	BeB	Benson rocky silt loam, over shaly limestone, 3 to 8 percent slopes
IVc	BeC	Benson rocky silt loam, over shaly limestone, 8 to 15 percent slopes
IVc	BeD	Benson rocky silt loam, over shaly limestone, 15 to 25 percent slopes
IVb	BeE	Benson rocky silt loam, over shaly limestone, 25 to 35 percent slopes
IVb	BeF	Benson rocky silt loam, over shaly limestone, 35 to 50 percent slopes
IVc	BfB	Benson very rocky silt loam, over shaly limestone, 3 to 8 percent slopes
IVc	BfC	Benson very rocky silt loam, over shaly limestone, 8 to 15 percent slopes
IVc	BfD	Benson very rocky silt loam, over shaly limestone, 15 to 25 percent slopes
IVb	BfE	Benson very rocky silt loam, over shaly limestone, 25 to 50 percent slopes
IVa	CaA	Carlisle muck
IVa	CbA	Covington silty clay loam, 0 to 3 percent slopes
IVa	CbB	Covington silty clay loam, 3 to 8 percent slopes
IIh	EaA	Elmwood fine sandy loam, 0 to 3 percent slopes
IIh	EaB	Elmwood fine sandy loam, 3 to 8 percent slopes
V	FaA	Fresh water marsh
V	Gr	Pits, Sand, and Pits, gravel
Ia	KaA	Kars fine sandy loam, 0 to 3 percent slopes
Ia	KaB	Kars fine sandy loam, 3 to 8 percent slopes

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Grand Isle County, Vermont

Suitability subgroup	Map symbol	Soil map unit name
Ia	KaC	Kars fine sandy loam, 8 to 15 percent slopes
Ib	KaD	Kars fine sandy loam, 15 to 25 percent slopes
IIe	KaE	Kars fine sandy loam, 25 to 50 percent slopes
IIIc	KbA	Kendaia silt loam, 0 to 3 percent slopes
IIIc	KbB	Kendaia silt loam, 3 to 8 percent slopes
IIIc	KcA	Kendaia very stony silt loam, 0 to 3 percent slopes
IIIc	KcB	Kendaia very stony silt loam, 3 to 8 percent slopes
IVa	LaA	Livingston silty clay loam, 0 to 3 percent slopes
IVa	LbA	Lyons silt loam, 0 to 3 percent slopes
IVa	LcA	Lyons very stony silt loam, 0 to 3 percent slopes
IIa	MaA	Melrose fine sandy loam, 0 to 3 percent slopes
IIa	MaB	Melrose fine sandy loam, 3 to 8 percent slopes
IIa	MaC	Melrose fine sandy loam, 8 to 15 percent slopes
IIb	MaD	Melrose fine sandy loam, 15 to 25 percent slopes
IIa	NaA	Nellis silt loam, 0 to 3 percent slopes
IIa	NaB	Nellis silt loam, 3 to 8 percent slopes
IIa	NaC	Nellis silt loam, 8 to 15 percent slopes
IIb	NaD	Nellis silt loam, 15 to 25 percent slopes
IIa	NbA	Nellis very stony silt loam, 0 to 3 percent slopes
IIa	NbB	Nellis very stony silt loam, 3 to 8 percent slopes
IIa	NbC	Nellis very stony silt loam, 8 to 15 percent slopes
IIb	NbD	Nellis very stony silt loam, 15 to 25 percent slopes
V	Qu	Pits, quarry
Ic	SaB	St. Albans-Dutchess loams, 3 to 8 percent slopes
IIc	SbB	St. Albans-Dutchess rocky loams, 3 to 8 percent slopes
IIc	SbC	St. Albans-Dutchess rocky loams, 8 to 15 percent slopes
IIc	ScB	St. Albans-Dutchess very rocky loams, 3 to 8 percent slopes
IId	ScD	St. Albans-Dutchess very rocky loams, 15 to 25 percent slopes
IVa	SdA	Swanton fine sandy loam, 0 to 3 percent slopes
IVa	SdB	Swanton fine sandy loam, 3 to 8 percent slopes
IIIc	VaA	Vergennes silty clay loam, 0 to 3 percent slopes
IIIc	VaB	Vergennes silty clay loam, 3 to 8 percent slopes
V	W	Water
IVa	WaA	Whately loam, 0 to 3 percent slopes

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.

• 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.