In rural areas of the country like Vermont, soils and their suitability as sites for septic tank absorption fields have a major influence on small-scale development. Limitations like shallow depth to bedrock, high water table and steep slope affect the cost and placement of septic systems; at worst, they prohibit their installation and force a change in plans for many prospective home builders.

Local and regional planners recognize the importance of soils in rural development and have begun to use soil overlays and databases, developed by the Natural Resources Conservation Service (NRCS), in their Geographic Information Systems (GIS) for reviewing growth trends and potential in rural areas.

A recurring problem for planners in Vermont has been that, when studying the NRCS soil interpretation ratings for septic tank absorption fields, almost all of the soil map units are rated “severe.” Soil map units are rated as having “slight,” “moderate,” or “severe” limitations based on national standards set forth in the National Soil Survey Handbook (3). On a statewide basis, about 92% of the soil map units are rated “severe.” Six percent are rated “moderate” and only 2% are rated “slight.” Among the map units rated “severe,” the degree of severity is not described, which makes it difficult to compare different types of soils. Another problem is that the slight, moderate and severe ratings do not relate in any way to State of Vermont regulations to guide the siting of individual septic systems.

To provide more useful information, the Vermont NRCS soils staff created a new set of ratings. Soil properties that affect septic systems were cross-referenced against current design requirements set forth by the State of Vermont Environmental Protection Rules (2) and Health Regulations (5). The result is a set of “ancillary” soil interpretation ratings for septic system suitability. Under this format, the soil map units in Vermont have been separated into six different “design classes” based on the type of septic system that would normally be installed on that map unit. Using this ratings scheme, a more realistic picture of the suitability of the soils in the state for septic systems is provided. Only 37% of the soil map units in the state are rated as “not suited,” and the remaining 63% are equally distributed among the other five septic system design classes.