

### 4.3.3 Soil hazard classification

The highest limitation for the soil landscape and the average of the highest ratings for soil material limitations shall be determined, as set out in Figure 4.1 for each soil landscape unit.

The soil classification shall be the higher of either:

- any individual landscape limitation; or
- the average of soil material limitations.

It is noted that soil material is assessed as the average of limitations. This is intended to reflect the manageability of soil material when compared to soil landscapes. Averaging this limitation indicates that locations where there are a few limitations will be more manageable, and economic to develop, than locations where there are more limitations.

### 4.4 SLOPE

Slope shall be analysed based upon the risk of wastewater runoff from a given site. The slope shall be analysed into the slope classes summarised in Table 4.3. Slope is best analysed spatially utilising a digital elevation model (DEM) to divide the study area into slope classes and provide a slope class layer for further analysis.

**Table 4.3 Slope classification**

Limitation type	Slope classification				
	1 Little	2 Minor	3 Moderate	4 High	5 Severe
Slope %	<6%	6–12%	12–20%	20–25%	>25%

The basis for this classification is that excessive slope can create difficulties in evenly distributing the wastewater to land resulting in runoff from surface land application areas. It is recognised that different system types will perform differently in different slope conditions; however, slope is indicative of potential runoff problems. The classification system is based on values cited in DLG et al. 1998, and consideration of the suitability criteria for septic tank trench disposal and derivative map for the Katoomba area produced by the Department of Land and Water Conservation (1996). This described a slope of 0–10% as having low limitations, a slope of 10–25% as having moderate limitations and slopes in excess of 25% as having high limitations.

It is noted that a digital elevation model may also be used to identify limitations associated with run-on (drainage lines) at a more detailed scale than soil landscape reports.

### 4.5 CLIMATE

The most common failure mode for on-site facilities is the surcharge of wastewater to surface and ground waters caused by rainfall exceeding allowance made in the design of the land disposal system.