

# BUILDING ON THE EDGE

Designing a building on a slope? You need to be aware of the increased distance now required between the bottom of a building's foundation and an adjacent bank sloping away from the building.

By Trevor Pringle, ANZIA, BRANZ Principal Writer

Clause 3.1.2(b) of NZS 3604:2011 *Timber-framed buildings* has new requirements for the distance between the bottom of a building's foundation and an adjacent bank sloping away from the building.

NZS 3604:2011 now considers existing ground conditions and has increased the distance foundations must be away from the edge of the bank to prevent the foundation being exposed by:

- localised slip failures in the bank
- erosion or frittering of the bank.

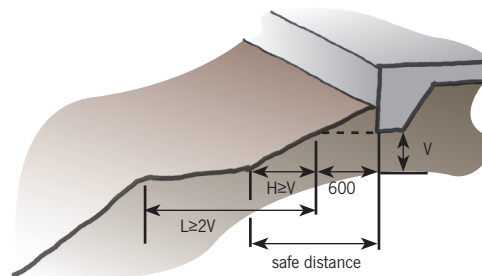
## Minimum distances on banks

The minimum separation requirements from a building to the steeply sloping part of the bank are shown in Figure 1 for three different ground conditions. While the drawings show a foundation wall, the edge distances also apply where the perimeter of the building has an edge-thickened slab or anchor or braced piled foundations.

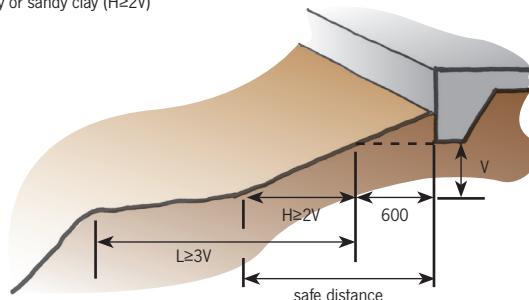
Other requirements given in NZS 3604:2011 for buildings close to the top of a bank are that:

- dimension H on Figure 1 is not more than 3 m
- the slope of the land away from the bottom of the bank is not more than 5°
- the ratio H/V is greater than or equal to:
  - 1 for rock
  - 2 for clay or sandy clay
  - 3 for other materials.
- the ratio L/V is greater than or equal to:
  - 2 for rock
  - 3 for clay or sandy clay
  - 4 for other materials. ■

For rock ( $H \geq V$ )



For clay or sandy clay ( $H \geq 2V$ )



For other materials ( $H \geq 3V$ )

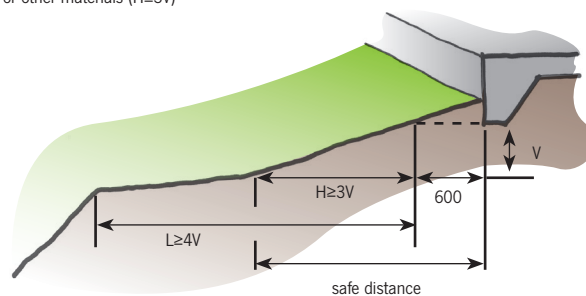


Figure 1: Minimum separations between the bottom of a building's foundation and an adjacent bank (developed from Figure 3.1 in NZS 3604:2011).