

Excavations near buildings

NZBC B1.3.1 requires that:

Buildings, building elements and sitework shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during construction or alteration and throughout their lives.

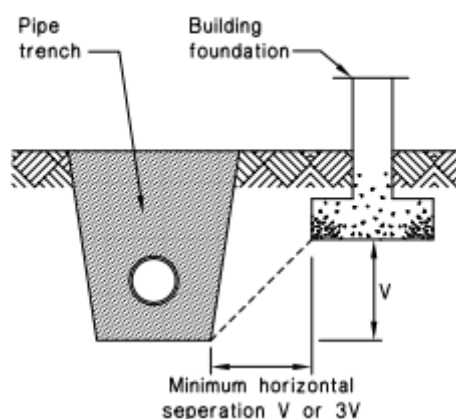
This clause affects plumbers, gasfitters and drainlayers when they are excavating for their services. This is because excavations for services may undermine the strength of building foundations.

Excavations for drainlayers

E1/AS1 and G13/AS2 provide acceptable solutions when excavating for stormwater and sewer drains.

For light timber frame buildings and concrete masonry buildings constructed to specific NZ Standards (NZS 3604 or NZS 4229 in accordance with B1/AS1), E1/AS1 and G13/AS2 mention the depth of a trench is restricted relative to the building foundation depth.

As per the diagram below (from E1/AS1 and G13/AS2), trenches shall have a horizontal distance from the building of no less than the measurement 'V'. However, if the trench is open more than 48 hours, the horizontal measurement increase to not less than 3V.



See also E1/AS1 3.9.7 and G13/AS2 5.6.1

Excavations for plumbers and gasfitters:

The documents *G12 – Water supplies* and *G11 – Gas as an energy source* do not specifically recommend horizontal clearances when excavating for water or gas services near buildings. However, the principles for excavations near buildings would remain the same as that for drainlaying.

Therefore, for light timber frame buildings and concrete masonry buildings constructed to specific NZ Standards, trenches for water and gas services should be completed as per the diagram above.

Excavations near commercial buildings

When excavating near many buildings such as commercial buildings, a suitably qualified person (such as an engineer) should be consulted before excavating. This is because the excavation requirements in E1/AS1 and G13/AS2 relate only to light timber frame buildings and concrete masonry buildings constructed to specific NZ standards. Larger buildings may have other unique factors specific to their design that need to be considered when excavations take place.