

# Technical Solution Sheet 3.01

## 3: Drainage (below ground sewer)

### Bedding Drains in Stable Soil

#### AIM

The aim of this technical solution is to ensure that below ground sanitary drains are adequately supported in stable soils.

#### PLUMBING REGULATIONS 2008

The *Plumbing Code of Australia* (PCA) is adopted by and forms part of the *Plumbing Regulations 2008*. Part C2 of the PCA specifies the objectives and performance requirements related to the installation of sanitary drainage systems. *AS/NZS 3500.2: plumbing and drainage Part 2: Sanitary plumbing and drainage* is a “deemed to satisfy” document listed in Part C2 of the PCA and contains a section on “Bedding of drains”.

#### GENERAL REQUIREMENTS

It is important in all soil conditions that a drain is directly and continuously supported either on the undisturbed base of a trench that is free from rocks or tree roots or alternatively, on imported bedding material such as crushed rock gravel screenings of nominal sizes 7-10mm or cement mortar.

Drains should be clear of any hard or sharp edged objects, and at least 100mm clear of any trench wall (see Figure 1).

#### SAND AS BEDDING MATERIAL

The following questions and answers clarify the use of sand as a bedding material.

**Q. Can I use sand as a bedding material for drains?**

A. Sand will only be acceptable if the installation is excavated in natural sand ground. The sand must be free running, capable of passing through a 2mm mesh sieve and not contain clay, organic or other deleterious material.

**Q. Can drains be bedded on a site backfilled with sand which has been subject to 90% compaction?**

A. Yes, with appropriate certification by a qualified engineer.

**Q. Can I use sand where the excavation is in clay soil and sand is the only bedding material available?**

A. No, in such instances cement mortar bedding consisting of one part Portland cement to four parts sand can be used as the bedding material.

#### FURTHER INFORMATION

For further information relating to excavation bedding support and backfilling of drains, whether in stable or unstable soil conditions, refer to AS/NZS3500.2.

# Technical Solution Sheet 3.01

FIGURE 1 – EXAMPLES OF DRAIN BEDDING

