

Technical Solution Sheet 91.04

91: Grey or Recycled Water

Greywater and Recycled Water

AIM

The aim of this technical solution is to inform plumbing practitioners about some of the considerations for use of grey and recycled water, to ensure that the health of the community is maintained.

Note:

This technical solution should be read in conjunction with Technical Solutions:

- 91.01 Transported recycled water for irrigation and commercial car washing
- 91.02 Grey or recycled water (non-drinking water supply)
- 91.03 Recycled water inspection bookings.

PLUMBING REGULATIONS 2008

The *Plumbing Code of Australia* (PCA) is adopted by and forms part of the *Plumbing Regulations 2008*. Part B3 of the PCA specifies the objectives and performance requirements related to the installation of non-drinking water services. [AS/NZS 3500.1: Plumbing and drainage Part 1: Water services](#), is a “deemed to satisfy” document listed in Part B3 of the PCA and contains section on “Non-drinking water services”.

BACKGROUND

During times of drought and water restrictions, one way of conserving drinking water is by using other forms of non-drinking water for appropriate uses. The most common forms of non-drinking water being used are grey and recycled water. There are many innovative products and methods designed specifically for water re-use. Whilst the use of water saving

innovations are increasing; the health and safety of our community is of a higher importance.

GREYWATER

GREYWATER TEMPORARY STORAGE AND DIVERSION SYSTEMS

There are several systems available that carry WaterMark approval, all of which are designed to divert greywater for temporary storage and reuse. The following considerations apply:

- Greywater must not be stored longer than 24 hours.
- EPA guidelines require that greywater must be pumped out to a sewer if not used within 24 hours.
- The system must have the ability to be diverted back to the sewer via a diversion valve when garden irrigation is not required or the water quality is not suitable e.g. soiled nappies in a laundry trough.
- Some systems have a soil probe to detect high levels of soil moisture. This signals the system to divert to sewer when irrigation is not required.
- Greywater pipework, pipe sleeves, identification taps and outlets shall be purple in colour.
- It is preferable that all irrigation pipe work is purple in colour.
- The local council must be consulted prior to installation.
- The installation of greywater storage and diversion systems is regulated plumbing work, and must only be undertaken by a Licensed Plumbing Practitioner.

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In addition to the considerations listed above, there are some installation issues to consider:

- If the excess greywater is diverted to the overflow relief gully below ground level, there must be a form of surcharge protection (e.g. a reflux valve). This is to ensure that there is no possibility of black water entering the greywater system in the event of surcharge. Check with the greywater system manufacturer for installation instructions.

GREYwater TREATMENT SYSTEMS

Greywater treatment systems collect and treat greywater for appropriate reuse. A two part approval process applies to greywater treatment systems:

1. EPA approves greywater systems that may be installed in Victoria, via a 'certificate of approval system'. (For details of approved systems, refer to www.epa.vic.gov.au).
2. Local government (councils) operate a permit system, which controls the installation, maintenance and monitoring of individual units.

The following should be considered before selecting greywater treatment systems:

- The use of treated greywater for toilet flushing will provide for year round conservation and savings on drinking water.
- Only systems that treat greywater to a standard of advanced secondary treatment and disinfection may supply water for toilet flushing. (For further information, refer to www.epa.vic.gov.au and www.health.vic.gov.au)
- The installation of these systems must include an ongoing maintenance program to ensure that the quality of the treated greywater remains suitable for toilet flushing and / or irrigation.
- The local council must be consulted prior to the installation of any greywater treatment system.

RECYCLED WATER

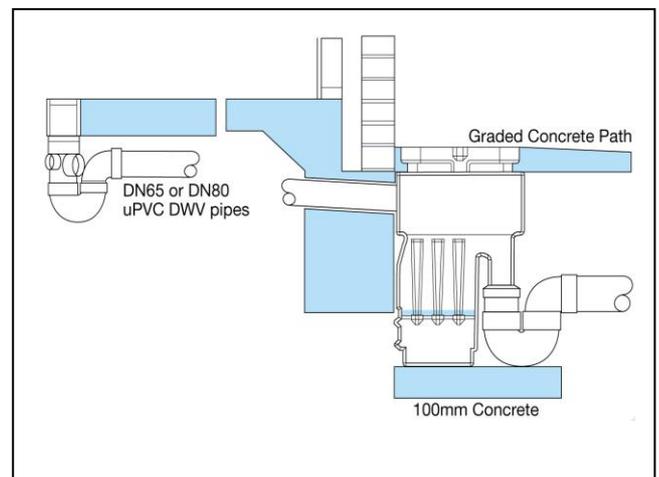
In addition to the issues raised in the technical solutions listed previously, the following must be considered:

- Pipes and fittings for recycled water are now widely available in purple colour in the smaller sizes for domestic applications.

FIGURE 1 - SYSTEM WITH UNDER FLOOR ACCESS



FIGURE 2 - SYSTEM DESIGNED FOR A CONCRETE SLAB CONSTRUCTION



- Pipes and fittings for recycled water in larger sizes for commercial and irrigation applications may have limited availability. For further assistance, contact your local supplier or plumbing merchant.

Remember: Do not confuse rainwater with grey or recycled water. Rainwater should be recorded on the compliance certificate as 5: Cold water plumbing.

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TRANSPORTED RECYCLED WATER

The quality or source of recycled water delivered to sites for irrigation or other non-drinking uses cannot always be confirmed. There have been instances where plumbing practitioners have been required to convey the water, and the water quality has been questionable.

If storing Class A recycled water for periods longer than 24 hours, it is recommended that ongoing chlorination be considered, or other measures put in place to manage the quality of the water.

Contact the Victorian Building Authority on 1300 815 127 and ask for a Technical Officer if further advice is required.

FIGURE 3 - EXAMPLE OF ILLEGAL AND DANGEROUS IRRIGATION WORK



NOT PERMITTED

Figure 3 shows an inappropriate and unidentified recycled water connection with a standard hose bib.