

GREYWATER FACT SHEET 3 IRRIGATING WITH GREYWATER



Greywater can be used to replace drinking water for watering your garden. There are a number of ways that greywater can be applied to your garden depending on whether you are using a greywater diversion device or a greywater treatment system. The different types of irrigation systems are discussed below.

SUB-SURFACE IRRIGATION

Greywater from a greywater diversion device or a greywater treatment system can be distributed by sub-surface irrigation.

Sub-surface irrigation means that the irrigation distribution system needs to be buried at least 10 cm below the surface level of soil or mulch. It is also recommended that distribution pipes and fittings are at least one metre from a boundary, building, in-ground swimming pool, or in-ground potable water tank. This protects structures from becoming destabilised and prevents runoff to neighbouring land.

The sub-surface irrigation system is not required to be installed by a licensed plumber, but it should follow the manufacturer's recommendations or design where relevant. Irrigation systems shall not be connected to both the mains water and the greywater system.

The simplest sub-surface irrigation systems consist of a pipe network to transport the greywater to targeted areas of the garden, and a water spike/dripper distribution head as shown below.

Examples of water spike distribution heads



G2G dripper from grey to green

Pipes are installed on the surface of the soil and drippers transport water to below 10 cm in the ground.

www.greytogreen.com



A borby tube

Connects with an irrigation system which is buried at least 10 cm in the ground.

www.borby.com.au

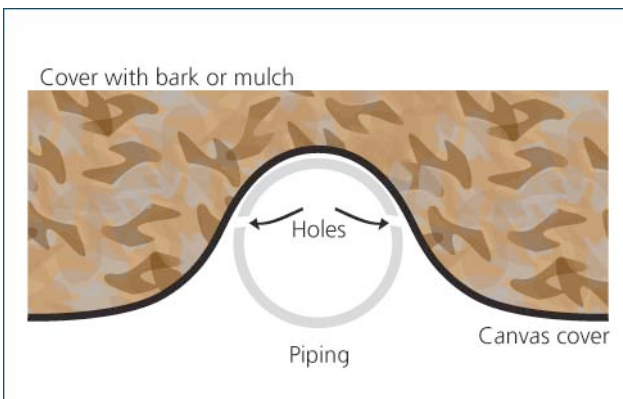


Other types of distribution systems are also available and include, but are not limited to, the following:

- Perforated pipes (refer to AS1547)
- Irrigation domes
- Piped trenches.



Nylex irrigation domes
www.nylex.com.au



Piped trench distribution system

SURFACE IRRIGATION

Surface irrigation is only permitted for greywater treated by approved greywater treatment systems. Surface irrigation is not permitted if greywater comes from a greywater diversion device. For more information, please see **Fact Sheet 2: Choosing the Right Greywater System For Your Needs**.

Surface irrigation systems use sprinklers and/or exposed drippers to disperse the greywater to the garden or lawn.

When using greywater for surface irrigation, it is important to control the droplet size, throw and plume height of the sprinkler system and to allow for wind drift to stop the water distributing beyond the designated area. It is recommended that spray heads that encourage large droplet formation (rather than mists) are used. Also, increased setback distance from property boundaries and swimming pools are recommended.

For more information about garden irrigation, please see the Irrigation Association of Australia's '**Your Guide to Good Garden Watering**': www.irrigation.org.au



GENERAL TIPS

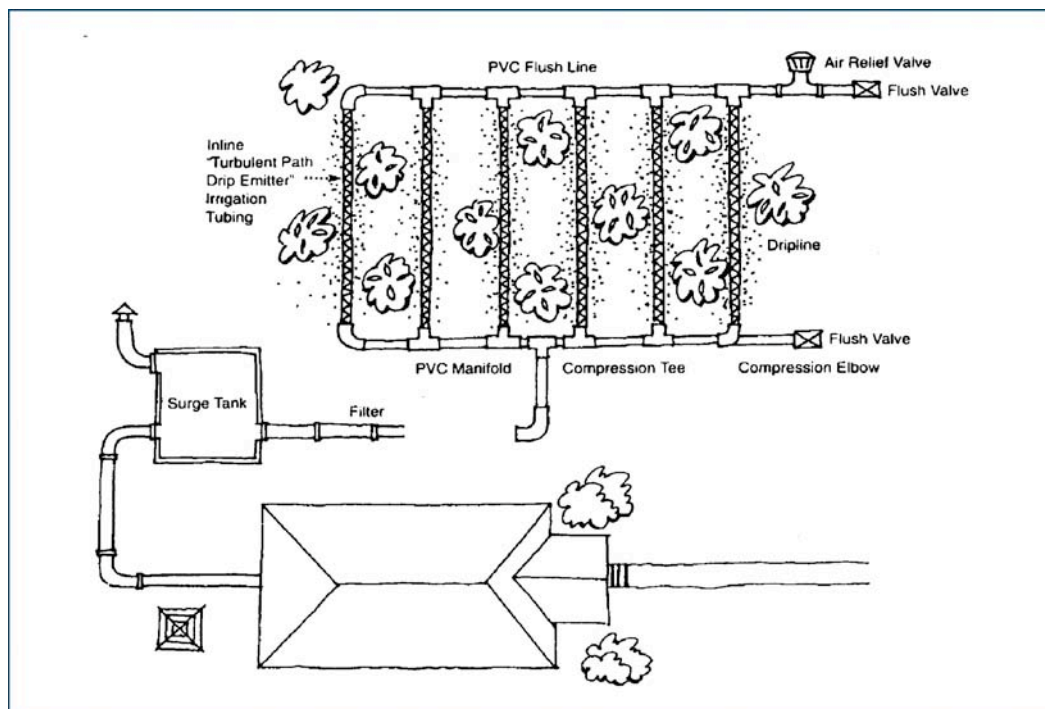
There are also a number of standards you need to make sure you comply with, no matter what irrigation method you use to distribute greywater to your garden.

- Greywater system components must be labelled “Recycled Water – Avoid Contact – DO NOT DRINK.”
- Warning signs, complying with Standards AS 1319 or NZS/AS 1319, must be fixed at all greywater outlets and at the boundaries of the irrigation area in at least two places. The signs must be clearly visible to property users, with wording such as, “Recycled Water – Avoid Contact – DO NOT DRINK”.
- All distribution pipes must be coloured purple (AS 2700) and be clearly and permanently marked “Recycled Water – Avoid Contact – DO NOT DRINK”.
- The greywater irrigation system should distribute the water evenly within the irrigation area so as to prevent ponding and ensure the water is applied efficiently.
- The irrigation system should minimise the risk of greywater coming into contact with people, animals or any plants, vegetables or fruit intended for human consumption.
- A minimum grade of 1:100 for gravity-fed irrigation systems is recommended to prevent pooling of the greywater in the lines and allow even distribution of the greywater. That means for every one metre of irrigation line there will need to a gradual change in depth of the irrigation line of 1 cm.
- In-line strainers (150–200 mesh) are recommended on the pump discharge side of pumped systems to protect pipework from any solids carried over from the greywater unit into the irrigation.
- Flush valves in surface boxes should be installed to allow periodic flushing for cleaning of the system.

For further information, AS1547:2000 outlines in detail information on the design, installation and maintenance of sub-surface and surface irrigation systems.

A greywater irrigation system can be designed in many ways to target key areas in your garden. An example is shown below.

Greywater irrigation system



Source: http://www.goldcoast.qld.gov.au/attachment/goldcoastwater/NRMEGuidelines_Greywater.pdf



ADDITIONAL RESOURCES

Further detailed information on greywater reuse is available in the following fact sheets:

Greywater Brochure: How can greywater be used?

Greywater Fact Sheet 1: Greywater diversion devices – Do's and Don'ts

Greywater Fact Sheet 2: Choosing the right greywater system for your needs

Greywater Fact Sheet 4: Keeping your plants and soil healthy with greywater

Greywater Fact Sheet 5: Maintenance of greywater treatment systems and diversion devices

The full Greywater Reuse Guidelines and these fact sheets can be downloaded from the Water For Life website: www.waterforlife.nsw.gov.au

