



Guidance note for garden irrigation using greywater diversion devices

Introduction

This fact sheet provides information and guidance on how to safely use greywater diversion devices (GDD) in your home for watering the garden via sub-surface irrigation.

What is a Greywater Diversion Device (GDD)?

- GDD's filter greywater from showers, washing machines, baths, wash basins, spa baths and/or laundry tubs and divert it to the garden.
- All GDD include a hand activated valve, switch or tap that can either divert the greywater to the garden in summer or to the sewer in winter.

What types of GDD exist?

There are two types of GDD

- Gravity GDD: Greywater moves from the home to the irrigation area by gravity.
- Pump GDD: An electrical pump moves greywater from a non-storage surge tank to the irrigation area.

What is sub-surface irrigation?

- An irrigation system buried at least 10 cm below the surface of soil or mulch.

Note: GDD do not treat greywater, therefore, the irrigation system is buried to minimise exposure to contaminants and microorganisms that may cause diseases.

How can I safely use a GDD?

Greywater reuse using a GDD is considered a low risk activity providing the GDD;

- Does not store greywater in any way.
- Is installed by a licensed plumber.
- Has a WaterMark licence.
- Is connected to a sub-soil irrigation area that is correctly sized, designed and installed (See set back distances in Tables 1 and 2).
- Only garden-friendly detergents are used.
- Is regularly maintained and the filters are cleaned each week
- Sub soil irrigation area is well maintained; and
- Greywater is diverted when the garden needs watering. (Do not overwater or water during rain periods).



Does a Plumber have to install my GDD?

Plumbing legislation requires that any work carried out on sanitary plumbing and drainage systems must be undertaken by a licensed plumber. However; if greywater can be diverted before it enters your house plumbing, a licensed plumber is not required. For example where greywater is diverted directly from the washing machine (rinse cycle preferred), the collection of shower water in buckets prior (while warming up) or during showering, and the siphoning water from laundry troughs.

The sub-surface irrigation system connected to the GDD does not require installation by a licensed plumber. However, the irrigation system must be fully installed prior to use of the greywater system, in accordance with your Local Government directions.

What is a WaterMark licence GDD?

- GDDs must have WaterMark certification, and are easily identify by the WaterMark logo as presented in Figure 1
- A list of WaterMark licence GDD can be assessed at the Department of Health Website http://www.public.health.wa.gov.au/3/1429/2/approved_wastewater_systems.pm
- A WaterMark licenced GDD must have a hand activated valve, switch or tap that provides easy access to divert greywater for the garden or sewer, as required.
- A WaterMark licenced GDD must have an automatic overflow to sewer.



WaterMark

Figure 1

How can I select the GDD more appropriate for my home?

- Discuss with GDD providers the options and your specific requirements (estimated greywater volume, site conditions, soil conditions, area available for irrigation and set back distances requirements (Tables 1 and 2).
- Ensure the GDD has a WaterMark licence.
- Check that you get the installation, operation and maintenance instructions with the purchase of your WaterMark GDD.
- Check you have a statement of the warranty and guaranteed service life of GDD components.

How can I obtain approval to install a GDD?

- Contact you Local Government to find out specific requirements in your area.
- An application fee may be charged for installation approvals and for inspections as required by your Local Government.



- Remember that it is the responsibility of the household owners to engage a licensed plumber to install the GDD if it is going to be connected to your house plumbing.

Table 1 Horizontal Setback distances for sub-surface irrigation

Item	Distance (in meters)
Closed Fence Boundaries	0.3
Open Boundaries (i.e. open fence or no fence)	0.5
Buildings ¹	0.5
Retaining wall and embankments, escarpments cuttings	1
Bores (private) intended for human consumption ²	30
Paths, drives, carports etc	0.3
In ground potable water tanks	1
In ground swimming pools	1
Bores located in Public Drinking Water Source Areas ³	100
Wetlands and water dependent ecosystems where the PRI of the soil is <5 ⁴	100

Table notes:

Drip distance measured from pipe work.

1. Greywater may contain chemicals that can damage your house if discharged against the foundations.

2. Only EDPH may vary this setback requirement.

3. For description of Public Drinking Water Supply Areas (PDWSA) contact the Department of Water (DoW), www.water.wa.gov.au. GDD's within 100 metres of a Priority 1 PDWSA must be approved by the DOW.

4. For wetland positioning contact the Department of Environment and Conservation.

Table 2 Vertical Setback distances for sub-surface irrigation

Item	Distance (in meters)
Groundwater	0.6 – 1.2
Hardpan or bedrock	0.6 – 1.2

* dependant on soil type, minimum of 0.6m for loams and clays, and 1.2m for gravels and sands.



References/ additional reading

Code of Practice for the Reuse of Greywater in Western Australia (2010)

http://www.public.health.wa.gov.au/3/667/2/greywater_.pm

List of WaterMark licence GDD

<http://www.public.health.wa.gov.au/cproot/1342/2/ApprovedGreywaterSystems.pdf>

Information on laundry products testing and phosphorous free detergents

<http://www.lanfaxlabs.com.au/>

<http://www.sercul.org.au/pap.html>

http://www.watercorporation.com.au/files/waterwise/Laundry_Detergent_CHOICE_CityWest.pdf

GDD Providers and list of plumbers

Greywater Industry Group <http://www.gwig.org/>

Perth Greywater <http://www.perthgreywater.com.au/download-greywater-selection-guide.html>

Water Corporation-Waterwise Plumbers list

http://www.watercorporation.com.au/files/waterwise/Waterwise_Plumbers_Listing_Metro.pdf

Master Plumbers and Gasfitters Association (MPGA) of Western Australia

<http://www.masterplumbers.asn.au/>

Information on plants and turfs suited for greywater

http://www.derm.qld.gov.au/waterwise/gardening/pdf/plants_turf_greywater.pdf

<http://www.ozbreed.com.au/research-papers/grey-water-research.html>

<http://forest.mtu.edu/pcforestry/resources/studentprojects/AubreyEmily/greywater.html>

More information

Water Unit

Environmental Health Directorate

Department of Health

PO Box 8172

PERTH BUSINESS CENTRE WA 6849

Telephone: (08) 9388 4999

Fax: (08) 9388 4910

Website: www.public.health.wa.gov.au

Produced by Environmental Health Directorate
© Department of Health, Western Australia 2012

