



## **RAIN GARDENS** for the Home or Business

improve **WATER QUALITY** of the Derwent Estuary

### **What is a rain garden?**

A rain garden (also known as a bioretention or biofiltration system) is a garden bed into which stormwater is fed. This can be water collected on a roof, driveway, road or paved area. The water is fed into the system from the surface and percolates through the soil. Excess water is then returned to the stormwater system via sub-surface drainage

### **Why build a rain garden?**

When land is developed for urban uses, the amount of hard surfaces impenetrable to water increase immensely as vegetated surfaces are converted to roads, roofs etc. This presents two problems:

- A) less water percolates to soil, creating more runoff
  - B) Water running over hard surfaces collect pollutants
- Simple techniques such as rain gardens help to filter, slow and use some of this additional stormwater...helping the environment and watering the garden bed at the same time.

### **Rain gardens work well near:**

- the bottom of a driveway
- Under a downpipe
- In car parks
- Beside paved areas

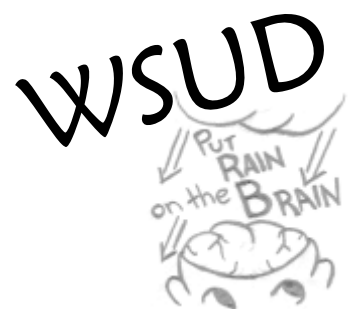


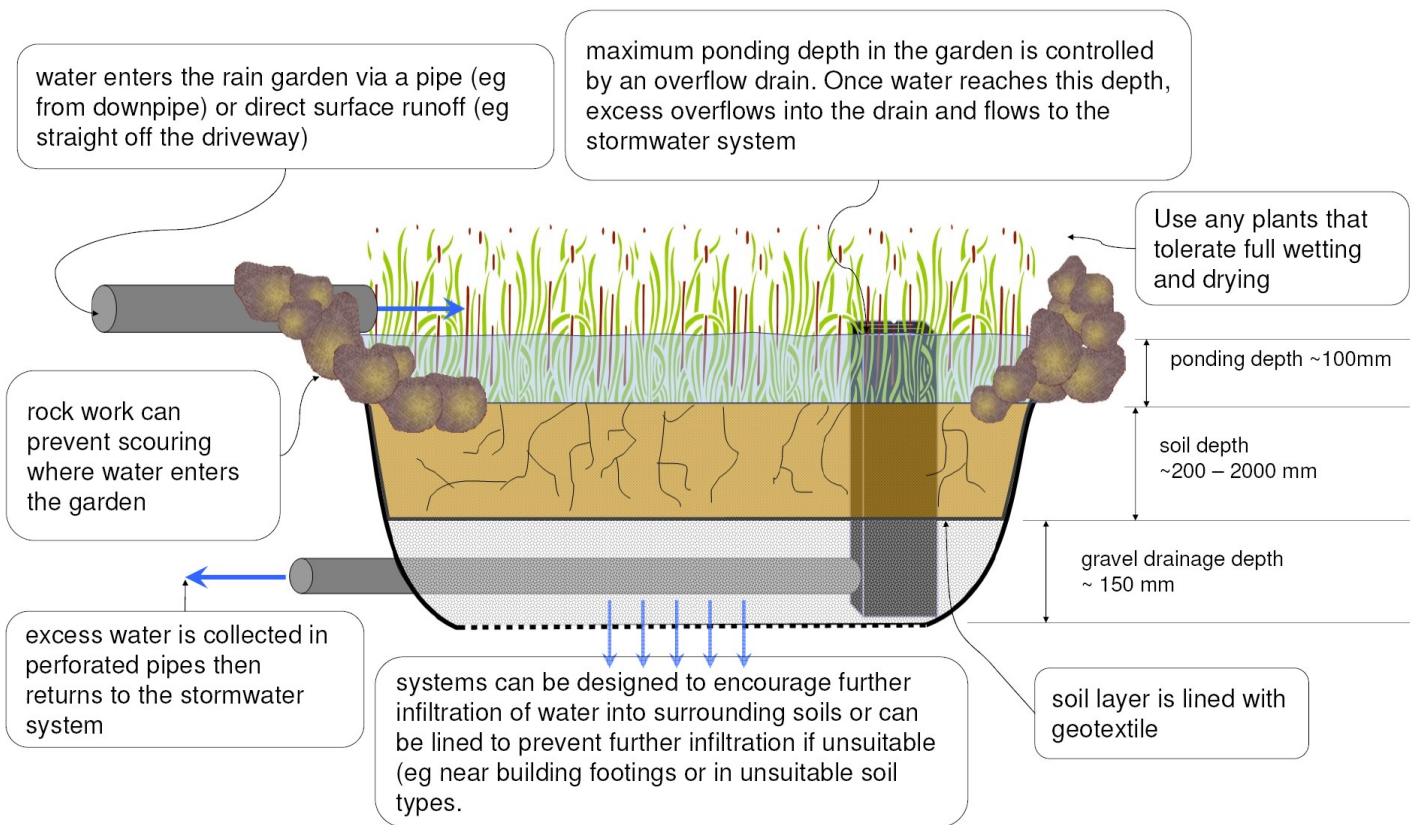
Figure 1. Rain Garden at Melbourne's Docklands



Figure 2. Rain Garden at the Royal Tasmanian Botanical Gardens

**Water Sensitive Urban Design (WSUD)** is a way to manage urban stormwater as a resource and protect receiving waterways and aquatic ecosystems from stormwater pollution. WSUD involves the use of infrastructure, landscape or garden features to improve stormwater quality and reduce an excessive amount of stormwater entering our waterways. Installing water tanks is one easy way you can use WSUD.





**Figure.** Typical rain garden cross section. Bed can be virtually any size or shape.

### Design considerations

Rain gardens can have various configurations, including hard edges and base (e.g. concrete) or more natural form using rocks or just planted soil. They can be designed for virtually any size or shape. Here are some design tips:

- You will need a Plumbing Permit from your local council since the garden must be connected to the stormwater system
- It is Important to have scour protection where water enters the garden to prevent erosion
- A good 'rule of thumb' for sizing small rain garden beds for effective performance is to ensure that the surface area of the garden bed is at least 3% of its catchment area (ie the roof, driveway, paving, etc that is collecting water). So, if your roof is 150m<sup>2</sup> and your rain garden is fed from the downpipe, then the surface of the bed should be 4.5m<sup>2</sup> (150 x 0.03).
- The soil media should be a coarse, well-draining sandy loam
- The drainage layer surrounding the perforated pipe should be clean (consistent particle size) gravel
- Any plants may be used as long as they tolerate wetting and drying, here are some native examples: dianella species, juncus species, lomandra, isolepis species, etc
- Make sure the system is lined (eg with a plastic liner) if the bed is near footings, over a high water table, near salinity affected soils or in sodic or dispersable soils susceptible to tunnel erosion (check with your council)

### Maintenance

Your rain garden should mostly look after itself. The plants may need a little water (if there is no rain) while getting established. Apart from that, the most important thing to do is to ensure that the plants cover the bed. This keeps the soil active and prevents blocking of the bed. If you get a lot of sediment, the bed can be scraped back, tilled and replanted.

*The Derwent Estuary Program (DEP) is a regional partnership between local governments, the Tasmanian state government, commercial and industrial enterprises, and community-based groups to restore and promote our estuary. The DEP was established in 1999 and has been nationally recognised for excellence in coordinating initiatives to reduce water pollution, conserve habitats and species, monitor river health and promote greater use and enjoyment of the foreshore. Our major sponsors include: Brighton, Clarence, Derwent Valley, Glenorchy, Hobart and Kingborough councils, the Tasmanian state government, Southern Water, TasPorts, Hydro Tas, Norske Skog Boyer and Nyrstar Hobart Smelter.*

**For further enquiries please contact your local council or visit the DEP website  
[www.derwentestuary.org.au](http://www.derwentestuary.org.au)**