The Architect's Column

Nick Belderbos, Chartered RIBA Architect and Director of Heswall based **architects-direct.com**, answers your questions and offers advice.

Harvesting Rainwater

What is rainwater harvesting?

Rainwater harvesting is the collection of water from surfaces onto which rain falls and the storage of this water for later use. Most commonly this involves collection of water from the roof of a building.

Why harvest Rainwater?

Cape Town has recently been in the news, having run out of water. Climate change, excessive usage, wastage and an increasing population are all putting pressure on water supplies in England with studies predicting significant supply deficits within the next 30 years. With global warming it is also expected that rain will fall in shorter, heavier bursts. This will result in flooding as drainage systems struggle to cope with the quantities of water. Flood water caused by heavy showers is less likely to find its way into reservoirs than gradual rainfall.

There are many benefits to harvesting rainwater:

- Rainwater can be used in the home for toilets and washing machines.
- Rainwater can be used for watering gardens and all outside uses even during hosepipe bans.
- Savings of up to 50% on mains water bills can be achieved in properties with water meters.
- Environmentally friendly. Why flush treated drinking water down the toilet?
- Rainwater harvesting systems can act as storm attenuation devices, releasing excessive storm water gradually into the drainage system reducing the risk of flooding.

Rainwater Systems

Collected water is stored in a tank above or below ground.

Storing water in tanks below ground is preferable as larger tanks can be accommodated and the water is not affected by heat causing discoloration and unpleasant smells.

There are three types of below ground systems that can be installed:

- **Garden systems** – Filter and store rainwater in tanks below ground for garden irrigation purposes.
- **Direct Feed** – Filtered Water is stored below ground and pumped directly to the toilets and washing machines when required.
- **Gravity Fed** – Filtered water is stored in the below ground tank. Water from the below ground tank is pumped to a header tank installed in the loft space. The water is then gravity fed to the appliances. This system uses the pump less frequently. Running costs are less than 1p per person per day.

Gravity fed system:

Installation

If you are proposing to install a rainwater harvesting system for the garden only, this can be installed at any time.

If you are planning on using the harvested rainwater for non-potable appliances such as toilets or washing machines the system is best installed at the time of new build or extension works as the system can then be incorporated into the build.

Tanks vary in size and the required size will be dependent on your usage. The supplier will be able to advise on the tank size you require. Chose a tank system that is shallow dig and suitable for below driveways. Once installed tanks can be easily maintained through an access cover similar in size to a manhole.

Useful websites:
www.rainwaterharvesting.co.uk

Gas Fire Pits

Enhance your outdoor living experience with a gas fire pit. These can be run on mains or bottled gas. Built in and portable options are widely available.

For more advice: **Looking to the future, our Office is now 100% mobile ensuring you have better contact with us. Call or Text us on our new Office phone line: 07925519799**