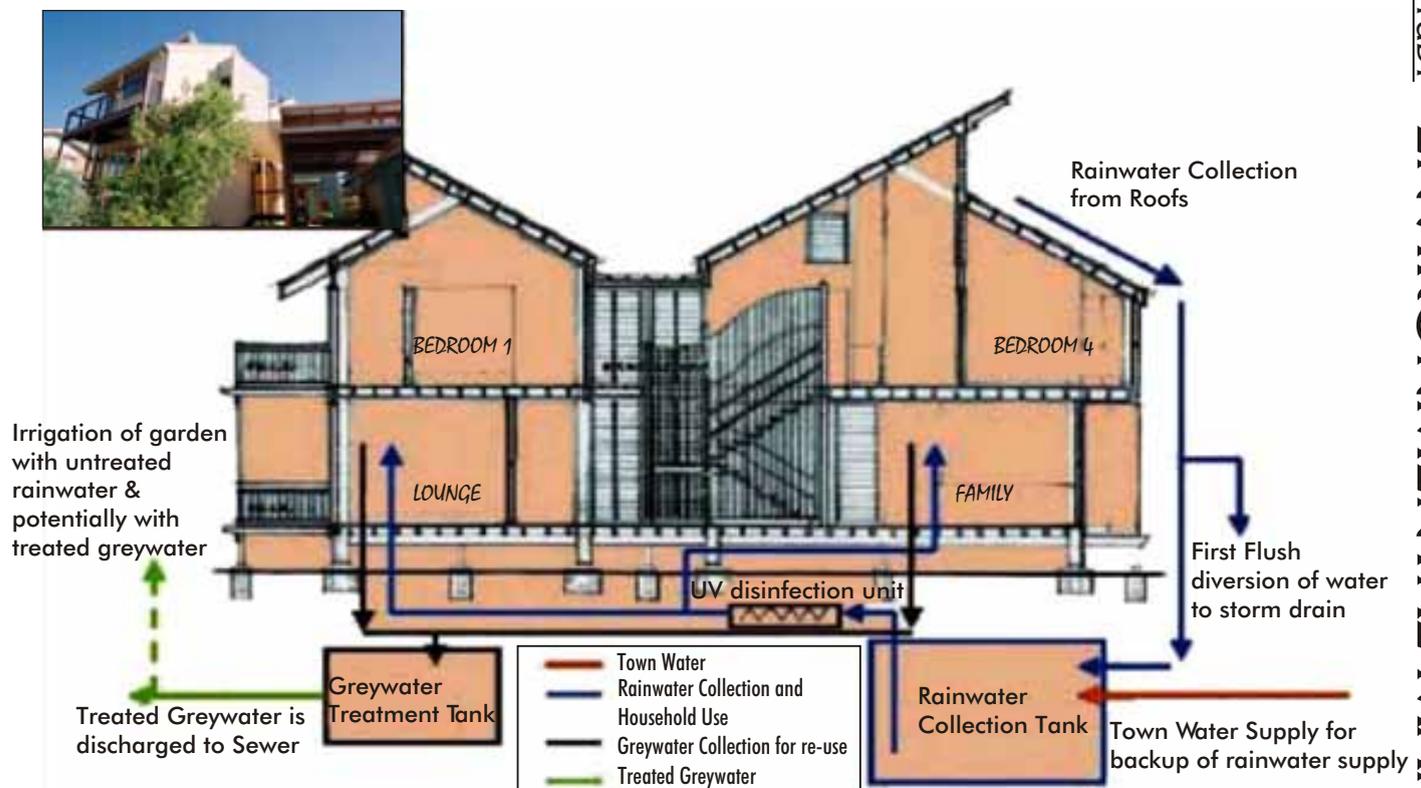


A Case Study in *Water Sensitive Urban Design: “Healthy Home”[®], Gold Coast, Australia

The “Healthy Home”[®] is an environmentally sustainable demonstration project incorporating Water Sensitive Urban Design (WSUD) and energy efficiency principles in a 460m² urban allotment. The water management scheme includes both potable water and greywater components. Roof run-off is collected and stored in a 22,000 litre rainwater tank for all internal and external water requirements and is supplemented by mains water if required. A ‘first flush device’ on each downpipe discards the first two millimetres of roof run-off. The subsequently harvested water is passed through a 20 micron filter prior to consumption.

On-site monitoring of water supply and usage balance found a 54% reduction in mains water demand. Limited monitoring of rainwater quality has found low (yet unacceptable by Australian compliance standards) coliform levels, presumably from birds. All other water quality parameters met the standards. Greywater is currently treated on-site using a recirculating sand filter system. Sewage is not treated as it is prohibited in sewerage areas under the Queensland Water Supply and Sewerage Act (1949). UV disinfection units are being installed and are expected to achieve complete coliform disinfection for both roof run-off and greywater. Estimates show a potential 80% reduction in mains water demand when both rainwater and greywater is successfully collected, treated, stored and recycled on-site.



The “Healthy Home”[®] Water Management Scheme

Planning and Design Features in the “Healthy Home”[®]

- Roof run-off is collected and stored in underground water tanks for household use
- Downpipes are fitted with first flush devices
- Potable water passes through a 20 micron filter
- A recirculated sand filter greywater system is employed
- Water saving devices are used throughout the house

* Water Sensitive Urban Design (WSUD) offers sustainable solutions for integrating land development and the natural water cycle. SuDS are a component of WSUD. Source: Water Sensitive Design in the Australian Context, conference held 30th - 31st August 2000, Melbourne, Australia. For further performance details, please refer to the following website: <http://www.healthhomeproject>