



Research House – Queensland Government

Rockhampton

Environmentally friendly solutions for a difficult corner block facing west...

- L-shaped building using innovative fly ash masonry block walls
- Energy smart window glazing reduces solar heat gain and glare
- Large, insulated well ventilated ceiling space reduces heat gain to internal rooms

Website: www.housing.qld.gov.au/researchhouse/about.htm

McMahon House

Townsville

Sustainable living on an old meatworks site...

- Masonry block house on a recycled timber sprung floor
- No roof guttering – drainage using pebble creek bed effect
- Structure allows open living with good cross ventilation, even in torrential downpours

Email: mcmahon_homes@onaustralia.com.au

Baroona Homestead

Cunnamulla

Reminiscent of outback shearing sheds, designed for hot, arid conditions...

- Two insulated pavilions linked by a courtyard for natural cooling
- Free-standing northern veranda for winter sun penetration into living areas
- Evaporative cooling in porch roof space using the Kalgoorlie "meat safe" principle

Website: www.fultontrotter.com.au/portfolio/baroona.html

Harper House

Eumundi

Bush tucker in the garden, plus...

- Rammed earth walls and concrete floor for temperature buffering
- Greywater recycling, rainwater tanks, solar hot water, photovoltaic electricity
- Low toxic internal finishes and recycled timber

Website: www.maroochy.qld.gov.au/harper_house.cfm



For a closer look at an extraordinary home, click on

www.healthyhomeproject.com

- » Take a virtual tour of Healthy Home
- » Get live data on weather, water, energy use of Healthy Home
- » Be a cyber-snoop with Healthy Home web cam
- » Explore design information and technical references
- » Follow links to other sustainable housing sites in Queensland



Centre for Integrated Resource Management



Healthy Home Project



Centre for Sustainable Design



Queensland Government
Natural Resources and Mines
Environmental Protection Agency



THE UNIVERSITY OF QUEENSLAND

For more information on:

Environmental Design, contact:

A/Prof. Richard Hyde
Department of Architecture
University of Queensland
Phone: 07 3365 3878
Email: r.hyde@mailbox.uq.edu.au

Water Management, contact:

Mr Ted Gardner
Natural Sciences Precinct
Department of Natural Resources and Mines
Phone: 07 3896 9488
Email: Ted.Gardner@dnr.qld.gov.au

Healthy Home Project, contact:

Dr Chris Prosser
Project Manager/Owner
Phone: 07 5539 9722
Email: thehealthyhome@hotmail.com

www.healthyhomeproject.com



the healthy home project

A modern approach to healthy housing in your street

www.healthyhomeproject.com

The Sustainable Industries Division of the Environmental Protection Agency proudly supports this project.



Sustainable Housing

Solutions for planet Earth
Healthy living for your future

Old ideas coupled with new technology make it possible to create water and energy efficient homes in the heart of the suburbs.

By harnessing Queensland's abundant sunshine, tropical rainfall, and natural sea breezes, homes can be healthier to live in and more economical to run.

These homes take vital steps towards energy, water and waste self-sufficiency through:

- Solar hot water, rainwater tanks, greywater treatment systems
- Special structural and solar designs allowing low cooling/heating energy
- Recycled and natural materials with low 'embodied energy' (energy used to create or manufacture materials)
- Natural paints, coatings and ventilation to minimise household dust, bacteria and outgassing of harmful chemicals

Sustainable Queensland homes are setting the benchmark for reducing the ecofootprint of urban development, taking us closer to our vision for smart sustainable cities of the future.

today's design
for our planet's
future

The award winning Healthy Home Project A blueprint for sustainable living

"We wanted to create a healthy environment for our children, where they could learn about their connectedness with the planet... a place where we could all become more aware and more accountable for the resources we use each day, and to inspire others to follow..." Dr Chris Prosser, Healthy Home Project Manager and owner

Designing with nature for ventilation and cooling without airconditioning:

- » Wooden louvres, breezeways, celestory windows, plus atrium and solar chimney for air circulation on calm days
- » House rotated 11° on block to face true north
- » Light portal frame construction with fibre cement cladding and gyprock walls

Sustainability in site!

- » minimum excavation, small footings and no concrete slab reduce ecofootprint
- » efficient cut and fill means no soil leaves site
- » mesh screens used for natural termite control
- » extensive use of recycled timber

Working wonders with water

- » 22 000 litre rainwater tank with UV disinfection system gives plenty of safe potable water
- » Greywater biofilter produces recycled water fit for toilet flushing and garden irrigation
- » Heat-fused polypropylene pipes replace PVC plumbing, eliminating solvent glues and leaching of organic chemicals
- » Water and energy efficient white goods and plumbing fittings

Practical, cost-effective solutions for environmental living

Energy savings make cents, with electricity use 45 percent lower than other Gold Coast homes:

- » 5-star BERS rating – the Building Energy Rating System for assessing heating/cooling energy required over life of house
- » 1.5kW photovoltaic panels provide 25 percent of household energy
- » Solar hot water system reduces electricity consumption by 40 percent

Healthy on the inside

- » Lime wash paints, granite benchtops and solid timber finished with natural oils reduce Volatile Organic Compounds and formaldehyde gases and dust
- » Cross ventilation reduces dust particles and flushes away bacteria and odours

Although the innovative Healthy Home costs more to build (around \$1 000/m²) than a conventional home, operational energy savings start from day one – and the trickle down effect will bring economies of scale.

Connections
to the planet

Queensland Sustainable homes

Each Australian household generates over 15 tonnes of greenhouse gas each year through everyday activities – that's almost one-fifth of Australia's greenhouse gases!

You can make a difference.
Small measures can make great gains for the environment.

Sustainable homes have similar features for water and energy efficiency, but each home is unique:

Brahminy House

Maroochydore

A simple design with a 5-star BERS rating...

- Oriented with long sides facing north maximises passive solar design features
- Shaded skylights for sunlight in winter and diffuse light in summer
- Polished concrete slab on ground and rammed earth walls for thermal mass benefits

Website: www.maroochy.qld.gov.au/brahminy_house.cfm

Cotton Tree Project

The Sunshine Coast

A master plan for inner-urban multi-residential construction...

- Stepped building levels maximise flow of sea breezes across site
- Spacious northern balconies for thermal refuge linked to open-plan living areas
- Breezeways between buildings and window awnings for ventilation – even in rainy weather

Website: Look under residential at www.architectus.com.au