

Sustainable House Day 2019

Karrinyup House

Hello, and welcome to our home.

Our house was designed with the company **Solar Dwellings** who specialise in designing solar passive houses. We moved in 7 years ago with our 2 little boys, and have been gradually finishing the gardens since that time. We are passionate about solar passive design and enjoy living in a house with intelligent and thoughtful design. We believe in sustainable and simple living, and are excited to share it with you today.

We hope you enjoy your visit. Please come and have a chat!

[Peta and Adrian](#)

We have utilised the following features in the design of our home:

Solar Passive Design including the following:

House runs east to west with a **northern orientation**, all living areas and wet areas where possible are on the north side. All bedrooms are on the south side. House is a long rectangular shape rather than a square, to allow northern heat and light to reach the southern rooms. The house is generally light and bright. Windows and doors are positioned to encourage cross breezes, ventilation, light and garden views.

Large northern areas of glass for solar passive heat gain in winter (minimal east and west glass prevents house from getting too hot in summer). **Dark floor tiles** soak up the winter sun and act as a heat bank (thermal mass) during winter. No artificial heating was required this winter.

Windows are covered with curtains (2 layers) and MDF pelmets, or blinds to prevent heat loss/gain where appropriate. In winter, the northern curtains are opened in the morning to let the low angled winter sun warm the floor tiles, then drawn by sunset. In summer the curtains are drawn during the hot days to prevent heat gain, then curtains and windows are opened in the evening to cool the house down.

Fans are located in all main rooms and are the preferred method of cooling. Reverse cycle air conditioning was added for the long unbearable heat waves in Perth. Seldom used but if used it is generally for a half hour only to bring the temperature down a few degrees to where fans are more than suitable. Otherwise it's straight in the pool!

The ceiling is **insulated** with cellulose fibre (shredded recycled newspaper) and Anticon insulation blanket under Colorbond roof.

The cavity brick walls are **insulated** with Air Cell (like a giant foil backed bubble wrap).

The house has a **light coloured Colorbond roof** to reflect the heat. We have also chosen a light coloured garage door, light coloured pavers and light coloured render for this reason.

External shading is provided by a pergola with deciduous fruiting grapevines trained along it. Whilst the grapevine was still young and providing minimal cover, we covered the pergola with shade cloth once the weather warmed up. This was held in place with V Grips (ask us if interested) over summer and removed in autumn. Shade cloth to vegetable garden beds in the heat of summer.

External shading is applied to outdoor shower and laundry area and an awning above western toilet window. Shade cloth to protect kitchen garden from the hot afternoon sun in summer.

A **carport** is a recent addition to provide shade for cars and a gathering spot for neighbours - next project is to add bench seating and fence and bar/serving area for community gatherings!

Large 9500L **water tank** supplies water to flush toilets and is used for the washing machine for approx. 9 months of the year. We have had a tap attached to the plumbing so that we can use mains pressure for the tank not just gravity fed for the tank hose. This enables us to use all our excess winter rainwater on the garden and pool when necessary in the drier autumn and winter weeks as well.

Low water use dual flush toilets and low water use shower fittings.

Lights used are mainly low energy CFLs and LED. Dimmers fitted where suitable.

Low energy appliances preferred, turning them off at the wall when not in use. Smart Switch at TV to turn off all media appliances at the wall when not in use (not leave on standby).

Low VOC paints to walls, water based enamel where possible.

Indoor plants to improve air quality.

8 **solar panels** on roof. Appliances and pool pump are used during the day where possible when we are producing our own power.

Solar hot water heating with a gas instantaneous booster.

Solar powered extraction vents on roof to expel hot roof cavity air, activate automatically as are temperature controlled.

We like to use ENJO products and white vinegar, bicarb soda, essential oils etc. to **clean** the house. We also like to use environmentally friendly washing and gardening products etc. We actively separate and recycle our household waste. Our council has a 3 bin system.

Universal Access Principles, allowing easier access for the mobility impaired and future proofing the house for older occupants, including:

Low thresholds into house and no stairs, single storey living. Wider doorways. Large front powder room. Large shower recesses with no door and no hob, easy access taps. Basins are set proud to allow easy access. Flick mixer taps and lever handles to doors. Multi generation living capability.

Vintage, pre-loved, hand-me-downs or antique furniture and collectables

(Peta calls them 'treasure', Adrian calls them 'junk'!) add to the sustainable vibe and are fun to collect. Reduced packaging, saving things from landfill, and giving already made items another life is good for the planet and good for your pocket. Nowhere is off limits, whether it is the local swap mart or op shop, a verge find, or the tip shop for salvaged building or landscaping materials. This also benefits many charities as well.

Exterior House and Garden

Recycled materials used where possible, recycled brick paving to driveway and kitchen garden. Remaining paving was purchased as 'Seconds'.

Recycled garden features such as washing machine tub fire drum, bird bath, rusty bird sculpture, mattress springs as wall feature, outdoor shower screen (lovely rusty balustrade from tip shop), recycled shower decking, wine barrel planters, BBQ trolley repurposed as a bench. Recycled limestone paving circle. Rocks, logs, steppers, railway sleepers and chicken area materials salvaged from various places. Timber for pavilion bar, shelves, and bench rescued from demolition of previous house. Gabion bench in pool area to utilise onsite waste limestone rocks. Preloved cubby and vintage play equipment. Pool area refurbished – old 70s concrete pool, a pool cover is used in summer. Existing shed and brick wall incorporated into current garden design. Rocks collected and reused after a friend's garden renovation. Chicken fencing and facility made with salvaged materials and pallets.

Garden designed with the assistance of Cherise Haslam from Garden Deva.

(gardendeva.com.au)

Plantings are mainly productive and include many fruit trees, herbs, bush food and natives. Garden is heavily mulched with free tree pruning mulch.

Pests are attended to by our 6 **chickens**: Hetty, Silky, Betsy Brown, Snowy and Maggie and Whitey. **Kitchen scraps** are given to the girls, and those that are not eaten are collected and composted with the chicken's manure and turned in to **compost** for the garden beds. We also have a **worm farm** to deal with food peelings and provide worm juice for the garden. We enjoy collecting and eating our chicken's eggs.

Raised wicking garden beds are made out of recycled apple crates. These garden beds are lower water use and out of the roaming chicken's way! Covered in shade cloth to protect from the chickens, hot summer sun and the cabbage moths when necessary.

The **grass** (Sapphire Buffalo) is low water and fertiliser use and slow growing. Weeds are kept in check by hand weeding.

The lucky children also have a cubby house, sandpit, sunken trampoline, and an **obstacle course** to scramble over which goes from one side of the yard to the other. Limestone blocks, dry creek bed, log steppers, logs etc. The rear of the pavilion doubles as a giant blackboard. The weeping mulberry turns in to a natural cubby with floor length branches in summer.

A **frog pond** is located in the pool area. Consideration has also been given to provide flowering plants for bees and birds, and habitats for lizards and frogs, even the odd bobtail. Snails and grumpy green grubs however are hand fed to the chooks!

A deciduous vine, an ornamental grapevine, has recently been planted for the arbour at pavilion to provide more summer shade, and winter colour.

Productive plantings (approximately 80 – 90 different varieties) currently include:

Citrus: orange, lemon, lime, mandarin, blood orange, cumquat

Bush food: Lemon myrtle, native finger lime, red centred lime, lilly pilly, Carissa, Midyim Berries, Muntries, Old Man Saltbush, Bush Basil, Native River Mint, Native Thyme, Sea Purslane

Fruit: Bananas, quince, pomegranates, mangoes, fig, mulberries (Shatoot, weeping and black), almond, feijoa, gooseberry, passionfruit, avocado, olive, blueberries, icecream bean, goji berries

Fruiting grapevines are grown across the pergola, red seedless and sultana.

Seasonal herbs and veggies are scattered around, along with asparagus, a curry tree, bay tree.

We hope you enjoyed your visit today. Good luck with your own house and garden building adventure!

[Peta and Adrian](#)