

# Urban revolution





On a secluded, tree-lined street in Adelaide's CBD, a new construction is under way that heralds a new era in inner city living.

From the street, Christie Walk looks like any other inner city apartment block. But if you walk down the paved path, a small gem is revealed: the broad walkway leads past a three-storey block of six self-contained apartments, with lush plants set around the doorways to soak up the sun. Bright paint on the wooden trim lifts the earthy tones of the rounded walls. Two plump cats gaze out of a bay window, and each doorway has its own paving

work in colourful mosaic or warm terracotta.

Keep walking and you discover a terrace of four three-storey townhouses, four strawbale cottages of varying sizes and a thriving garden. The five-storey block of 13 apartments, which will also feature a community kitchen, laundry and meeting room, will complete the picture. All the buildings have an inward facing aspect that gives a wonderful sense of community.



Materials from buildings demolished on the site were reused for paving and other decorative feature elements

“We have to be able to live sustainably in cities...more and more people are living in cities worldwide”

In the early nineties a group of people interested in building 'ecological cities' got together to build an environmentally benign urban living space. They wanted to build in a way that suited the region's landscape and climate, used locally sourced materials and was based on collective effort, not private ownership. A non-profit organisation, Urban Ecology Australia, was established to support and facilitate ecological development and it created Wirranendi Inc as a community developer for Christie Walk. Christie Walk's design allows for easy interaction between residents, looks good and feels comfortable. **It is also affordable, and balances the need for green space, communal living and independence in an inner city, medium-density environment.**

Because Christie Walk sits on an unusually shaped block in the heart of the city, with buildings

abutting most of its boundaries, its architect, Paul Downton, had to get creative to make the most of Adelaide's rich store of sunlight. Paul welcomed the chance: "If you pick up a few books on solar design, you can get the feeling it's all cut and dried," he says. "You know: go out to your site, orient it to the north, put the eaves out a certain distance ..." This site's unique elements and its residents' specific needs meant these tenets had to be adapted. So the smaller apartment block is orientated east-west and some of the other dwellings have unusual orientations, to capture as much sun as possible. Some panels set over townhouse balconies have been raised slightly above the roof level, so they provide not only shade and shelter from rain, but extra ventilation.

Adelaide has a Mediterranean climate with hot summers and cool winters, so good insulation is

a must. In summer, the apartments rely on cross-ventilation and high thermal mass for cooling. The townhouses use the concept of the 'thermal flue' to draw cool air from the surrounding gardens up through the house, and expel the heated air through louvred vents or ventable skylights in the roof. The gardens are an intrinsic part of this passive cooling design, and when the rooftop garden on the smaller apartment block is fully mature, it will help insulate the building as well as provide a pleasant, shaded space to relax in.

Where appropriate, materials high in thermal mass, such as concrete floor slabs, have been used in all the dwellings. The townhouses separating walls are made of 'earthcrete' (a type of rammed earth material), which also helps with noise reduction within the terrace. In the apartments, internal walls are of masonry and studwork, with aerated concrete providing cost-effective insulation for the external walls. "This is preferable to concrete blocks because we get five times the amount of wall for the same amount of energy input," says Paul.

One of the first people to move into an apartment was Effie Best, who loves the way it captures the natural light and heat. Even on Adelaide's most wintry nights, she usually doesn't need a heater, she says. And the cross ventilation works well in the warmer months too, with ceiling fans keeping residents at a comfortable temperature.

The concrete used in the slabs contains a high percentage of flyash (a waste product from power stations), which reduced the amount of new cement, and therefore the embodied energy and resulting greenhouse gases, required to build Christie Walk. Materials from buildings demolished on-site were

High density living with an eco edge.



reused for paving and other decorative feature elements. Plantation pine was used for the joists, and many of the interior features were made from recycled timbers, such as the spiral staircases featuring steel, recycled jarrah and other Australian hardwoods.

Christie Walk will be enviably self-sufficient when it comes to energy use. When all of the photovoltaic panels are installed, the development will export energy to the electricity grid. The site collects stormwater from roofs and balconies which is used for irrigation and toilet flushing. A chlorine-free sewage treatment system will treat all grey- and black-water onsite, and a small community garden demonstrates that even the tiniest urban site can produce food and flowers.

The village feel is important to Effie, as is the proximity to Adelaide's wonderful produce market and local shops. She particularly likes the pedestrian-friendly layout (Christie Walk is vehicle free, although the council provides some parking). The bay windows mean living areas are light and roomy, and the kitchens are compact but easy to use, with mosaic designs over many benchtops. And the view is spectacular: the Adelaide Hills rise to the east and the shoreline stretches out to the west, giving residents a wonderful sense of the landscape and their place within it.

The dwellings are good value for money, with a planned life of 100 years, compared to about 50 years for conventional houses. The shells have been designed to sustain repeated renovation of interior spaces. Energy savings are significant: bills for a three-storey strawbale cottage are 50 to 90 per cent lower than average, depending on the season.

Joan, a resident of one of the townhouses, says, "We have to be able to live sustainably in cities.

A lot of people say 'Oh, you can go off to the bush and live on the land, where you can grow your own food and not impact on the environment,' but more and more people are living in cities worldwide." Christie Walk, with its focus on non-toxic materials, self-sufficiency and passive heating and cooling, is a living model of how good design can produce inner-city spaces that are healthier for both people and the environment. ◀

#### For more information:

**Urban Ecology Australia**  
[www.urbanecology.org.au](http://www.urbanecology.org.au)

**Designer:** Paul Downton  
**Builder:** EcoCity Developments – stages 1 & 2  
Tagara Builders – stage 3

**Location:** Adelaide, SA

**Key Features:** 40,000 litre rainwater tanks  
Solar hot water  
5,000 litre grey-water system  
Double-glazed windows  
Non-toxic construction materials and finishes  
11.1kW grid-connected photovoltaic power system (in development)  
Roof garden and community garden