



The new living area contains inherited family furniture which the owners re-upholstered and re-sprung through The Chair Doctor, a coffee table retrieved from the family farm in the Hunter Valley and a wall sculpture by Cammie Lyons. **opposite** The owner's daughter, Lily, gazes out of one of the upstairs master bedroom windows that is made from western red cedar.



Light Creation

Renovations to very small houses often require more design skill than larger projects because every metre counts. Jane Riley visits a brilliant yet minimal extension in inner city Sydney.



Adding a small extension to an existing house may sound like a straightforward project but to do so in a contemporary way, on budget, while considering environmental impact and increasing liveability, can often require as much thought and detail as would a larger renovation, or even a new build.

A single-storey terrace in Sydney's inner city suburb of Newtown is an example of how a considered and measured approach by architect, David Boyle, transformed a modest extension into a huge improvement on the house.

"It was a small project and every square metre of space was critical," says David. "We developed lots of different options on the best kind of planning strategy and best use of space to maximise the area and get the building to work really well – where the sun could come in to save turning on lights, and avoiding artificial heating or cooling."

The original house had two bedrooms, a very small dining area off the kitchen and a laundry and toilet stuck at the back. The owners – a family of four – needed another bedroom and a larger, more usable living area that connected to the rear garden. The brief also involved a small budget and the desire to make the best of the 247 square metre site from an environmental perspective.

"The primary thing was to look at the existing building quite carefully to see if it could be adapted with minimal interruption and minimal work," says David. "That's an important factor people often overlook with these old houses. They think they have to re-do everything when they can often take small measures to improve the way the house works."

"This approach had a massive impact in terms of the budget by minimising the building footprint, helping to retain existing trees at the back and taking a low-tech approach to building in an inner city area."

The plan was to keep as much as possible of the original 87 square metre house and to re-use the bricks from the demolished rear section for paving in the yard. Most of the mature trees in the garden were kept, including two established Banksia: as David says, "It's quite rare in Newtown to have such large native trees that bring in wildlife." Instead of mimicking the original rendered brick building, David focused on designing a contemporary two-storey extension as a separate element, using different materials. It was vital that it suited the current environmental conditions by engaging passive solar →

opposite clockwise from top left: Recycled jarrah timber sourced from a salvage yard is used on the stairs and landing; custom joinery throughout the house is made from plywood with a clear oil finish; the owners achieved their desire for an easy-living family area that flowed through to the back garden; the ensuite bathroom basin joinery runs through to the master bedroom to link the rooms and maximise space. **this page** Bricks from the demolished rear of the original house were re-used in the outdoor paving and landscaping.

design principles, and that it would let in much needed light. The critical factor was capturing the sun. As the back of the house faces south, merely adding large glass windows to this end was not going to suffice.

“The general strategy we adopted was to play with the way the floors and ceilings worked to try and capture the northern sun in the two back rooms,” explains David. “By raising the ceiling level with a high-level strip window and stepping the building out beyond the width of the existing window at the back we now have two north-facing windows on either side of the building that get sun and encourage cross-ventilation. The top one is essentially a skylight. It’s higher than the existing roof at the front of the property so all the great sun comes in.”

By sloping up the ceiling in the living room, the high-level skylight facing north could be added. The upper level joinery running along the northern wall of the bedroom helps conceal the stepped profile. In the bedroom, two windows on the northern side were created – one into the en suite and a corner window on the north-east with an awning providing shade – plus a large south-facing picture window that captures the view of the trees outside.

“In the living room we were able to put windows on three sides. It’s rare in an inner city environment to be able to do that.”

The rear extension, with its lightweight timber frame, fibre cement cladding and western red cedar cover battens, embodies a Japanese aesthetic that contrasts with the heavier-looking, traditional style of the existing house. This is carried through to the inside as well, with pared-back oil-finished plywood joinery, a simple polished concrete floor slab for passive heating and cooling and a Japanese-style bath in the upstairs master en suite. Simplicity and sustainable materials are an integral part of the design with recycled jarrah timber from a salvage yard used for the stair landing area and western red cedar joinery for the window and door frames.

The renovation also included the addition of 5-star rated taps and shower heads, and compact fluorescent light fittings.

A rainwater tank was installed to feed a native garden.

“The overall impact of the building is really quite low,” explains David. “The footprint is now very similar to that of the original building.”

By minimising resources, engaging in efficient material use and maximising passive ESD principles, a little extension turned into a very clever use of space. This is a fine example of how economies of scale and budget do not have to impact on good design, and how heritage can meet eco-friendly, being modern in the kindest possible way.



Simple, modern custom joinery was created for optimum functionality in the master bedroom.



Specs:

Architect
David Boyle Architect
www.davidboylearchitect.com.au

Structural Engineer
Northrop

Builder
H2H Developments

Specifications:

- 5-star taps and shower heads.
- Use of compact fluorescent light fittings.
- Recycled timber flooring for the stair landing area.
- Selection of local window joiner to manufacture the western red cedar framed windows and doors - keeping it local.
- A native garden has been planted in the front yard.
- Brick work demolished from the existing house was recycled as paving for the rear yard.
- Oil finish to plywood joinery.
- Lightweight timber-framed construction (no steel was used) with lightweight fibre cement cladding and western red cedar cover battens. Bulk wall and ceiling insulation.
- Installation of a rainwater tank feeding garden.

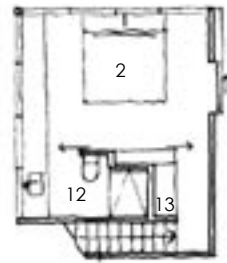
Other primary passive ESD notes:

- Minimise the extent of the new work by carefully analysing the existing building and the clients' requirements. The majority of the existing building was kept as this was important to acknowledge the embodied energy within the existing structure as well as to keep costs down.
- The extension is designed as a separate pavilion at the rear of the existing house and the siting was important to minimise the disruption to the existing mature native trees in the back yard. These trees are an important feature of the yard and provide aspect from the new rooms and valuable habitat to the native wildlife in the inner city.
- Minimise the building footprint and compact design to minimise material use.
- The pavilion includes operable windows on 3 of its 4 sides to encourage natural daylight and cross ventilation. In effect the new rooms are single depth due to the siting and arrangement of the windows.
- Concrete slab on ground - standard polished concrete used to passively heat and cool the house.
- Operable windows to the north and south of the living room capture cross breezes to encourage passive cooling (no air conditioning is used). Windows on opposing walls are also incorporated into the upper floor level.
- External mounted sliding doors connect the house to the rear yard.
- Additional high level east window to capture morning sun and aspect.
- Shading has been incorporated to windows where necessary including the north east corner window to the bedroom.
- Efficient material use through careful detailing to minimise material wastage.

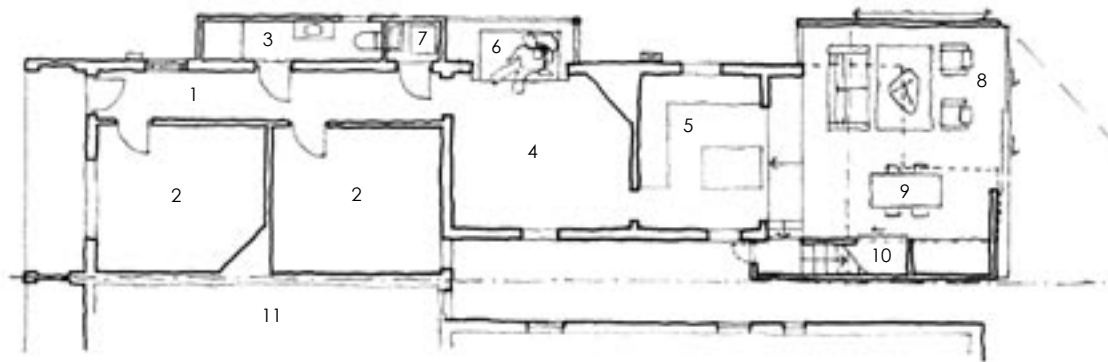


- 1/ hall
- 2/ bedroom
- 3/ bathroom
- 4/ living
- 5/ kitchen
- 6/ window seat
- 7/ laundry

- 8/ new family room
- 9/ dining
- 10/ store
- 11/ adjoining terrace
- 12/ en suite
- 13/ robe



First Floor



Ground Floor



Elevation



Plenty of natural light and cross ventilation in the bedroom.

opposite top left The original hallway leads to the new rear extension. **right** The new addition has a contemporary Japanese-inspired aesthetic that complements the rendered brick of the original house.



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