



Design workshop: Space to play

Details

PROJECT TYPE

Renovation

LOCATION

Kingsville, VIC

SIZE

Land: 277 sqm

Current house size: 90 sqm

Proposed house size: 180 sqm approx.

BUDGET

\$200,000 - \$300,000

The Brief

- 4 bedrooms and an extra bathroom/toilet at one end of the house, ideally in the original part
- Another living space / multipurpose room
- Improved energy efficiency, with features such as insulation and double glazing
- Best use of northerly aspect for kitchen and living area with an adjoining courtyard
- A separate laundry with storage space
- Storage space in the attic if remaining single storey
- To retain period features of the original home
- Improved ventilation to prevent the condensation, damp and mould that have occurred in the living room and bedrooms
- Solar energy for power and heating and an efficient hot water system.

With three growing children, Nadya and Robert's family is bursting out of its two-bedroom Edwardian cottage in Melbourne's inner west. Tim Ellis of Glow Building Design offers suggestions for more space and less environmental impact.

NADYA AND ROBERT HAVE LIVED IN their weatherboard cottage in Melbourne's west for 11 years and have grown attached to its period charm and the surrounding community. But the family of five needs some breathing room. They're hoping for north-facing living and dining to make the most of their love for communal cooking, while their pre-teenage twin daughters are seeking some privacy, and their younger daughter a space to be creative. "We also struggle with the limited storage and use our shed to store most things," says Nadya.

They are also frustrated by the

bathroom opening off the kitchen, not having a separate laundry, and the condensation caused by inadequate ventilation. They are also concerned about cracks in the walls caused by soil movement. On the plus side, they love spending time in their generous backyard with its veggie gardens and fruit trees, and regularly use the undercover patio for barbecues. They would like to retain as much of the green space as possible, though would consider converting their front yard into a food growing area if needed.



Nadya, Robert and their three daughters are looking for ideas to renovate their Kingsville home, for more space and energy-efficiency.



Nadya and Robert have lived in their charming weatherboard cottage in Melbourne's inner west for 11 years and love its period features and the location, but as a burgeoning family of five, they are itching for more space.



The undercover area at the rear of the house has been well used by the family for barbecues and entertaining, and is a feature they would like included in their renovation.

TIM'S RESPONSE

Kingsville is an interesting and well-located suburb, and Nadya and Robert are fortunate to have a house in the area, but it is not meeting the needs of their family as it is. A sensitive, passive solar extension makes good sense to keep up with their living needs.

THE SITE

I can attest to the problematic soil quality of the inner west, as a resident of nearby Williamstown and through my work in the area. Clearly, the design of the extension needs to take this into account. There have been many new extensions in the area which have shifted separately to the existing house, causing cracks and damage between the two.

UP OR OUT?

Double-storey extensions have benefits such as thermal stacking, and reducing the

footprint, allowing more use of outdoor space. However, the heritage overlay often means you can't put the second storey in the existing roofline, and going double-storey on a small lot involves the expense of additional structural steelwork. It also risks overshadowing the neighbours.

I've suggested a single-storey solution, which has the added long-term benefit of being accessible into later life. Losing valuable green space through an extension can be a problem, but progressive councils such as Kingsville's Maribyrnong Council do support growing vegetables in the front nature strip setback.

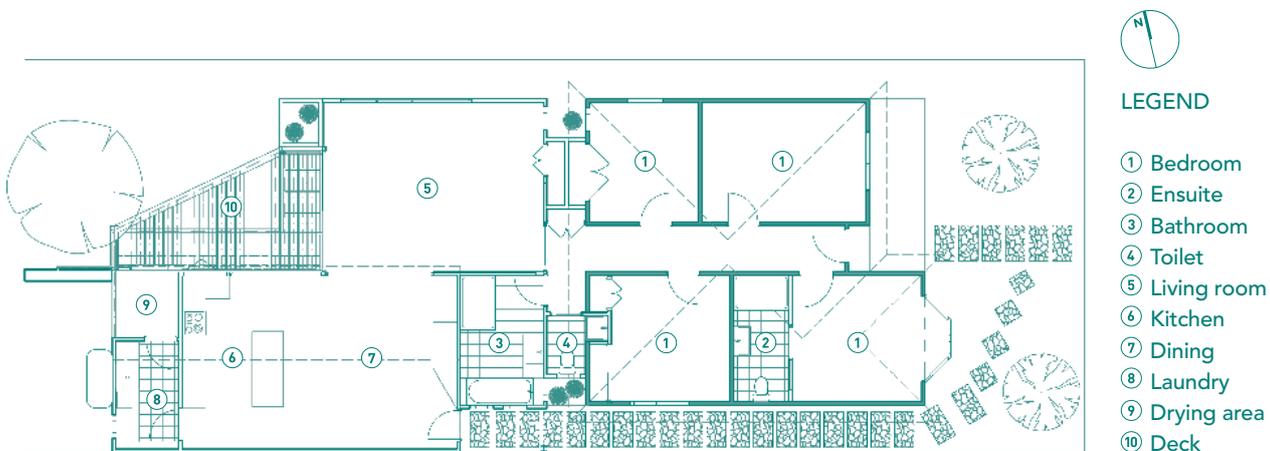
THE PROPOSED DESIGN

Nadya and Robert have some good ideas such as keeping the kitchen away from the toilet, considering neighbouring extensions, and investigating options for zoning and multiple-use rooms.

The first priority is to maximise the orientation – this means opening the house up to the north. Light and ventilation also need to be added to help protect the house against the condensation problems they have already experienced. I've suggested this could be addressed with a link to the heritage part of the house, bringing light and ventilation into the interior. This type of small inset which separates the old from the new, generally located behind the existing hip roof, is a preferred method in heritage areas.

My proposed design allows for four good-sized bedrooms within the existing dwelling. It is best when working with an existing house, particularly a heritage home with pitched and propped roofing, to keep internal walls in the same location wherever possible as they often are load bearing. Additional stud walls can be added.

PROPOSED PLANS





Tim's suggested design, which makes the most of the northern aspect along the side of the property.

The rear has been designed to open to the northern aspect, and provide two customisable living areas to suit the family's needs. A drying area is located close to the laundry to encourage drying outside. There is room for growing vegetables in the front and back yards, bike storage and some private open space with good northerly aspect. The nature of the plan with two recreation areas allows the children and future teenagers their own space; alternatively the two spaces can be opened into one. A study zone in this area means that activities can be supervised if desired.

OTHER DESIGN CONSIDERATIONS

- Building along the southern boundary to maximise northern aspect can be

achieved provided you abide by building regulations and the wall does not unduly shadow neighbours' windows. The boundary wall also needs to be fire resistant

- The existing hip roof and the new gable are pitched at 29 degrees to the north, providing a good aspect for solar PV and hot water
- Water tanks are located close to the laundry for easy plumbing.

MATERIALS AND PRODUCTS

Concrete slab or not?

Selecting the base to build on is a significant decision. Poor soil needs to be taken into account, and although it might be ideal from a thermal point of view to use a concrete slab, this would mean that

the slab is fixed, while the existing house on stumps could move. There is also often a step down to the slab from the raised existing flooring. I feel that that stumps are best in this location as they avoid these problems by being tied into original construction and the existing height of the house. To compensate, reflective foam insulation can be installed between the joists and particle board under the new floorboards to add additional sealing and insulation. Phase change materials could also be considered for the northern lightweight walls as an alternative to thermal mass.

Avoiding condensation

Condensation problems and mould could be addressed through the use of additional



Nadya and Robert have grown fond of their characterful neighbourhood, which is conveniently located and peppered with community touches, such as this Telstra pillar masquerading as R2-D2 from Star Wars.

windows to the link, and windows with fixed glass at the bottom and high opening sections above that can be safely left open. The roof space would be well insulated to the ceiling (R6), with good ventilation to the hip roof cavity to minimise condensation, and breather foil could be used for sarking. The new gabled roof and existing hip roof could also have access for storage.

An external sheltered area for drying clothes has been added to encourage less dryer use and internal drying of clothes, both of which can add to moisture levels. A gate can be pulled across to hide washing in the drying area if desired.

Other sustainability considerations

– Hydronic heating is a good option. It can be expensive to install, particularly

compared with ducted, but the heat is lovely, it does not blow dust around the house, and it has low running costs.

- Most renovations are of course constrained by budget. Windows are likely to take a large part of the budget; new windows should be double-glazed with a U-value of 4 or below, and when budget allows, the windows in the existing house should be replaced with double-glazed reproduction units or secondary glazing to preserve heritage style.
- I strongly suggest low-VOC paints and LED lighting.
- Consider retractable Roman-blinds or adjustable awnings to control the light and solar access to the new northern windows.



Glow Design Group specialises in designing energy-efficient homes that are functional and beautiful. We are passionate about design and work hard to ensure our clients enjoy the journey and love the creation. Good design is of utmost importance: high thermal efficiency not only helps save the environment, it saves on ongoing costs by using energy wisely.