



This 1950s home in Brisbane was raised so a new storey with a contemporary, open layout could be built underneath. "It's one of the simplest jobs we've done," says architect Shaun Lockyer. "We're very proud of it."

SPECIAL REPORT

UPWARDS AND ONWARDS

The conventional way of extending a home is to build up or out. But there is another possibility, writes **Harvey Grennan**.

Queenslanders have been doing it for decades: building an extension *beneath* an existing home. In the suburbs of Brisbane and beyond, builders are well practised in jacking up a house and creating more living space at ground level.

In the fashionable London boroughs of Kensington and Chelsea, however, it's not so simple – they have to go underground; a concept of building dubbed the 'iceberg' home. There, the super-rich are excavating Georgian terraces to build subterranean pools, gyms, ballrooms, cinemas and even bowling alleys. Those underground caverns can be up to four-storeys deep, with more floor space than the original house, hence the term 'iceberg' – you only see a small part of the whole.

Back in the 'real' world of ordinary folk, there are circumstances where lifting an existing house to create a new living zone below is an attractive and viable alternative to going out or up. Going 'up and under' can be a solution on a very small block where you would lose too much yard space with a single-storey extension, or where the local council's footprint restrictions would be exceeded. Or where the existing

house structure is not suitable to take a second storey, or the height already underneath is short of the legal requirements for habitable rooms.

Another possibility is removing a house from another location and doubling the accommodation by using it as a top storey with a new storey underneath. Not all houses are suitable for this treatment; they must be timber-framed structures on stumps or brick piers, not on a concrete slab. Full brick or brick-veneer houses are a no-go.

The 'up and under' approach can maintain the character of an existing house and be a good way of complying with heritage regulations, says building designer Scott Dawson of Brisbane's Blue Planet Design, which specialises in this type of renovation. "Brisbane has a lot of areas where prewar Queensland-style houses aren't allowed to be demolished," he says. "Raising a home and building underneath will usually result in more floor area than a rear extension, and it's an effective way to stay within council restrictions relating to site coverage (the percentage of building area compared to site area), which is >

CASE STUDY

It's the post-postwar house – a “spectacularly ordinary” L-shaped weatherboard home with a tin roof built 60 years ago in the Brisbane suburb of Bardon. The job was to give this time-capsule of urban Australia (pictured on these pages) a second life and it was done by raising the house and building another storey underneath.

“We dissolved as many walls as possible downstairs with sliding doors so the house floats above the landscape and retains its original design,” says architect, Shaun Lockyer of Shaun Lockyer Architects. “The horizontal bands of weatherboards reinforce the horizontality of the house. The linear bands of colour are very contemporary but use the original ingredients of the house. We kept the original windows and weatherboards upstairs.”

The north and south walls downstairs are ‘transparent’ with glass and accommodate the open-plan living areas. “In a subtropical climate, we like to design outdoor spaces that can be locked up,” says Lockyer. ➤



◀ commonly 50 per cent.” Dawson says there are two design approaches to building underneath an existing home. These are to:

- ❖ Reconfigure the existing upper level to contain the bedrooms, bathroom and perhaps a secondary living space, then move all the main living areas to the new lower level.
- ❖ Retain the upstairs with minimal changes and put additional bedrooms, a laundry, bathroom and secondary living area on the lower level.

“Clients wanting to go with the first option usually don’t have much of a view and want to orientate their living toward the backyard/pool area. Those favouring the second option usually have views and breezes they want to capitalise on,” says Dawson. “Both these types of projects usually incorporate a new covered rear deck and car accommodation in the form of a lock-up garage as part of the new lower level. Or, a carport between the house and the front boundary.”

The usual building procedure is to employ a re-stumping contractor to lift the house on hydraulic jacks and sometimes the house is relocated by sliding it on rails. Then the house is temporarily supported on steel beams and timber cribs while any stumps and brickwork are removed. The site is levelled for a concrete slab, pier holes are bored, steel columns are placed in the pier holes and steel beams attached to the existing timber-floor bearers. Concrete is poured into the pier holes, the temporary supports are removed and the slab poured. New timber-framed walls are then built on the new slab in the conventional manner.

Any steel columns within the internal floor area can be positioned so they are built into the new timber-framed stud walls, says Dawson. “The new steel beams bolted to the sides of the existing

‘RAISING A HOME AND BUILDING UNDERNEATH WILL USUALLY RESULT IN MORE FLOOR AREA THAN JUST A REAR EXTENSION.’ SCOTT DAWSON, PRINCIPAL BUILDING DESIGNER, BLUE PLANET DESIGN

bearers gives the bearers the ability to span further with fewer supporting columns. The result is a more open-plan space under the house.”

There are design challenges, however. “Finding a location for the new internal stair within the existing layout usually results in the loss of a small room,” says Dawson. “The location of this internal staircase somewhat dictates the lower-level layout as the stairs will divide up the available space.”

Buying a house that has already been developed underneath requires caution, says building inspection firm Australian Building Inspection Services (ABIS). “A lot of older homes have DIY-built areas

below the house that are used for storage, car accommodation, bedrooms etc. These are usually poorly built with very low ceiling heights, and present a risk of termite attack and infestation,” says Dawson.

ABIS says it’s important to check that the floor has been raised at least 150mm above ground level to avoid flooding in the case of heavy rain, that moisture and termite barriers have been installed at ground level, that the head height, ventilation, glazing and any other aspects of the room comply with requisite building codes, and that the building work has been approved by the local authority.

WHAT IT COSTS

The cost of building underneath an existing house is about 10 to 15 per cent greater than extending out or up on a flat site, says builder Justin Andrews of Brisbane’s Abode Construction. Excavation of a sloping site or rock and the necessary retaining walls could add another 10 to 15 per cent, he says.

“To lift a house of 150m² and build underneath usually costs about \$250,000, including a new bathroom and ensuite upstairs and a new kitchen and bathroom downstairs,” says Andrews. “The cost of lifting and supporting the existing house is about \$30,000 to \$35,000, which is roughly the same as a new roof on a normal extension. The concrete slab is \$25,000 to \$30,000, and then there’s another \$150,000 to \$180,000 for the stud walls, plasterboard, stairs and all the other conventional building work.”

OTHER OPTIONS – OUT OR UP

If you want to build a ground level or upper-level extension, Archicentre, a division of the Australian Institute of Architects, gives these cost per square metre figures for shell-only extensions, based on Sydney prices. Fitting out a bathroom will add \$10,000 to \$25,000 to your budget, and a kitchen another \$12,000 to \$30,000.

	LIGHTWEIGHT*	MASONRY*
Ground level	\$1900m ²	\$3400m ²
Upper level	\$2280m ²	\$4080m ²

*type of construction