



Small House
Surrey Hills Sydney

Domenic Alvaro
Architect

This house in Surry Hills, Sydney, takes its cue from the small houses crammed into miniscule sites in cities like Tokyo and Kyoto.

In particular it is inspired by Japanese architect Waro Kishi's House in Nipponbashi, Osaka (1900-92), on a site just 2.5 metres wide, which rises three levels to a dining room and open-air terrace. In Sydney, Domenic Alvaro also has designed a vertical house that climbs to a roof-top garden. Only here the site is a six by seven metre near-square patch – barely big enough to park two cars – on the corner of a little back street on the edge of the city's CBD. Where Waro Kishi's sliver is a house of steel and glass, Alvaro's is a four-story tower of precast concrete that explores ideas for single-dwelling living on almost impossibly small sites formerly occupied by tiny workers' cottages or left over micro-sites deemed too small to build on.

For Alvaro, a design principal at Woods Bagot Architects in Sydney, his determination to live in the inner city became an investigation into how to design and build decent architecture for the kind of money that wouldn't buy you a poky two bedroom apartment on the edge of major cities like Sydney and Melbourne. Small House was completed for \$650,000 including GST, all associated council fees and road closure costs of \$3,000 per day because of restricted crane access. "It was in part a reaction to over-inflated cost of apartments in Sydney inner city, and in part necessity, it was my budget!" Alvaro says.

It became, too, an exploration on the use of precast concrete "to achieve a result which erases the sense of individual panels... to make the building feel monolithic." And the outcome is impressive architecture. The presence of the house hits the observer like a breath of fresh air amidst the grunge of cottages and light industrial buildings that surround it. Small House rises as if squeezed up and out of the ground. Four storeys, five if you include the roof-top garden, of minimalist design that dazzles the moment you set foot on the first step of the three flights of cantilevered stairs that carry you up and through the house.

The zoning is clear enough: parking, utility and store on the ground; sleeping and bathing on level one; living or more sleeping on level two; and kitchen, dining and living on level three; all topped by a densely planted roof garden. Light is drawn into the house via large windows facing the street; as you climb the views get bigger and better: first directly onto the cottages opposite, then over rooftops and finally splendid views across the treetops of Hyde Park and the Sydney skyline. Finishes are spare: white painted concrete walls in the main, stone floors, oak cabinetry and glass screen walls. There is no overhead lighting save for lighting of art works. Otherwise, all lighting is provided via freestanding lights selected to act as sculptural pieces. The stair void rising up one side of the house acts as a funnel drawing air through each level of the house. A quirky angle at the rear of the site provided Alvaro the opportunity to use it as a services riser.

The trick in the successful cost management of the project was all in meticulous pre-planning. The restricted nature of the site led Alvaro to consider prefabrication as the preferred method of construction.

"One of the key issues with conventional building on such a small site is the cost of builders' preliminaries," Alvaro says. "Scaffolding was prohibitive, so we looked to using high quality prefabricated concrete panels to reduce costs, even though road closure costs were over \$3,000 a day," he says.

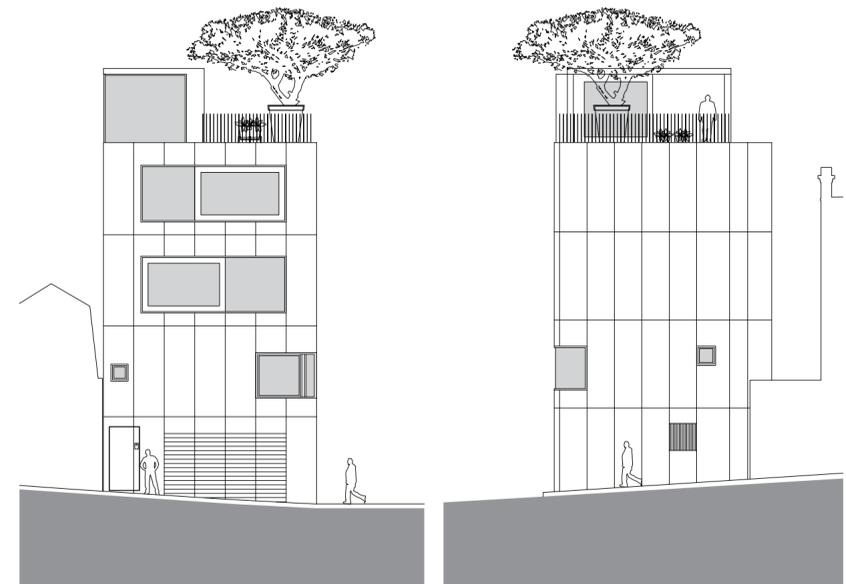
The precast panels, each 7 x 3.4 metres with a step joint, were stacked and erected in four days and the entire structure was built and completed in three weeks, including footings, floor plates, underpinning of neighbouring properties, installation of windows and the roof.

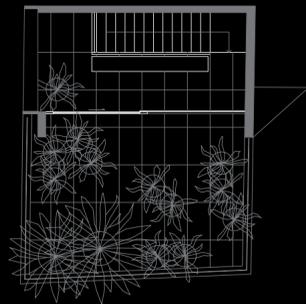
All the panels were manufactured locally, using existing moulds at the precaster's plant. The concrete mix included recycled materials like slag, flyash, aggregate, steel and water. Off-white cement was used to whiten the appearance of the finished panels. Speculating about his design for the Nipponbashi house, Waro Kishi cited Le Corbusier's Beistegui House in Paris facing the Champs Elysées, which was planned to be topped by a penthouse "which puts the observer at the same height as the Arc de Triomphe. At the same time, however, the observer finds himself in an elevated outdoor space that appears to be at ground level. In other words, the building creates in the observer both the sensation of a privileged view and a unique feeling of being afloat. That, I think, is the precious quality that was made possible by the modern concept of space, or more specifically the roof garden." JR



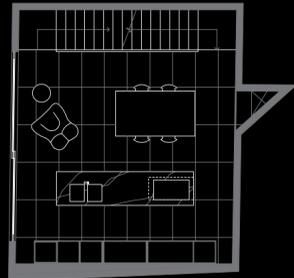
west elevation
0 1 2 0m

south elevation

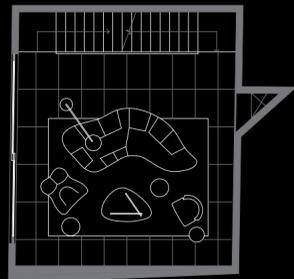




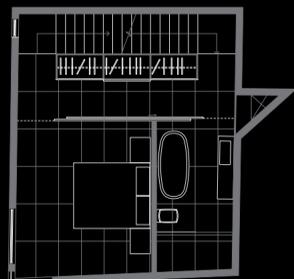
Roof Terrace



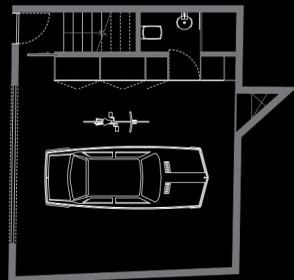
Kitchen



Living



Bedroom/Bathroom



Garage



Small House investigates and proposes new and affordable ways for creating good architecture on tiny inner city sites

Project Statement

Small House is an ultra-compact concrete vertical house that adds to the urban fabric of inner city Surry Hills, Sydney. The site is so small it can fit into the garage of a typical sprawling suburban home. An exercise in urban consolidation, Small House proposes to build upwards rather than outwards by assigning multiple uses to single spaces, with flexibility for change in the future.

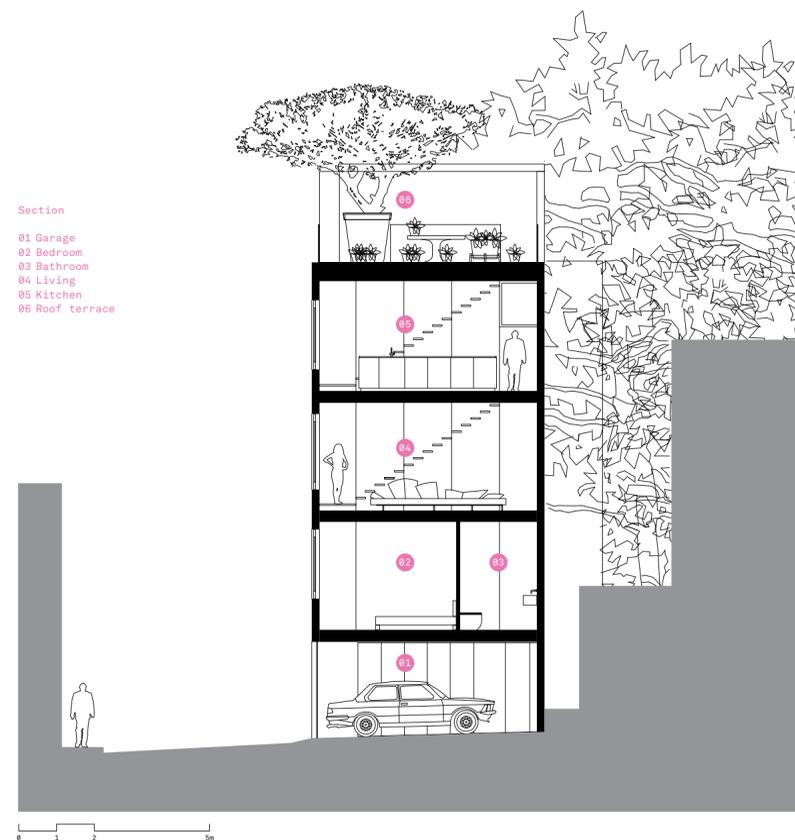
The stair void assists in drawing air out through each level via the roof-top sliding doors, maximising vertical cross ventilation. Large sliding windows maximise daylight and ventilation and frame city views, whilst the solidity ensures privacy from surrounding commercial buildings as well as good thermal mass. A services riser connecting each level enables the reticulation of all services and additional storage.

With an eco-conscious spirit in mind (and relatively modest budget), innovation was required for the construction, based upon a model of prefabrication. The two basic ideas were a structure with no columns to make effective use of the limited land area, and to achieve a final result which erased the sense of individual panels, in effect to make the building feel monolithic. The structure, built entirely from high quality precast concrete was prefabricated offsite, and erected over a four day period. By pre-planning all necessary details for offsite production; wall and floor panels, cast-in provisions for stairs, balustrades, windows, light fitting and the like, seeking to minimise the onsite construction time and disturbance to the surrounding neighbourhood. The vertical false joints in the wall panels erase the reading of individual panels. The large transparent glass doors then play with the composition of the concrete tile grid, introducing reflections of the sky and clouds as they move through the day.

Precast concrete's inherent properties made it a natural choice for achieving sustainability. All the panels were manufactured locally. Existing moulds were used, with most manufacturing waste being recycled. Recycled materials were included in the concrete mix, like slag, flyash, aggregate, steel and water, the only alteration being an off-white cement to whiten the appearance of the concrete. The pre-caster also batched the sand for uniformity. Concrete has good thermal mass, is extremely durable and its long life offers minimal maintenance. It is also reusable.

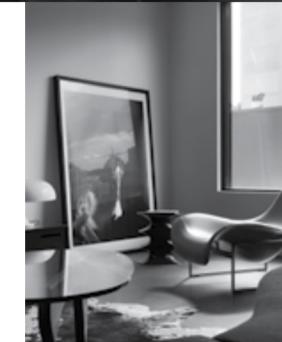
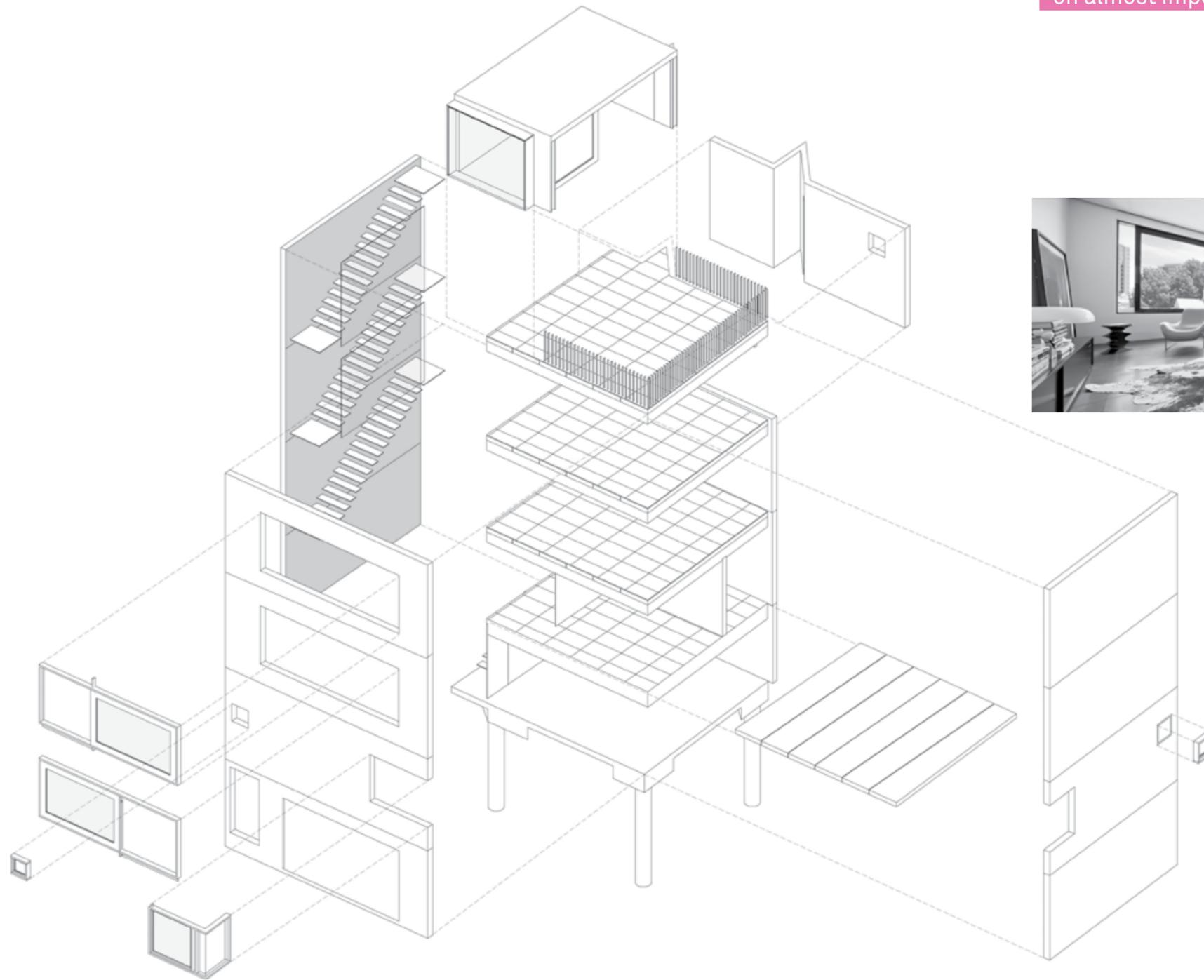
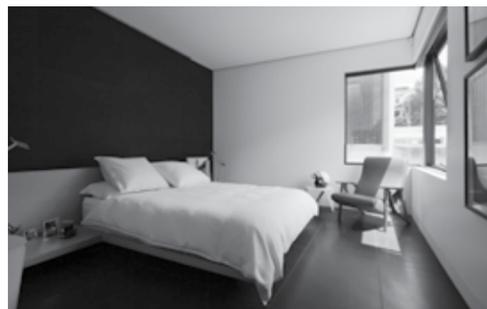
Quality of design with no maintenance and substantial access to outdoor open space are key elements for city living. Small House investigates a new typology in current urban living spaces, whilst reflecting a contemporary lifestyle full of diversity and creativity, all for the cost of a city apartment.

Domenic Alvaro





A tower of precast concrete that explores ideas for single-dwelling living on almost impossibly small sites



Project Small House (Alvaro Residence)
Location Surry Hills, Sydney
Architect Domenic Alvaro
Landscape Architect 360 Degrees
Builder Baseline Constructions
Structural Engineer Waterman Sydney
Precast Hanson Precast
Photographer Trevor Mein



An exploration on the use of precast concrete to achieve a result which erases the sense of individual panels... to make the building feel monolithic

