

ADAPTABLE HOUSING

Demographic change and alternative housing models

ADAPTABLE HOUSING promotes an availability of different relevant spaces at one place - either short term or long term orientated, relate to specific cycles or rhythms of life. The conventional architectural space offers limited shapes and functions - ignoring the ambiguity, inconsistency and complexity of today's life. ADAPTABLE HOUSING is interested in an optional architecture, changeable and adaptable spaces that allow different perceptions and interpretations for living. „As well as“-architecture is not interested in the final frozen state but in a process, in a space of assembling: an intelligent infrastructure - rich, functional and stimulating.

ADAPTABLE HOUSING is a catalyst for different options of acting and vitalizing the users consciousness of their individual needs. Housing has to offer flexibility in functional, spatial, atmospheric and mental terms due to short-term, seasonal and biographical cycles. This flexible and dynamic background puts the user in the centre of „designing“ to usup his/her environment instead of being a passive, determined and submissive guest. These options engender a psychological act of freedom and self-confidence for a serene user who is always aware of the further potentials and configurations hovering above the physical space. ADAPTABLE HOUSING wants to create a rich and complex environment that allows different interpretations and might help to redefine - in a permanent process - an authentic living beyond fixed expectations and clychés.

New Typologies

Apartment: Expander

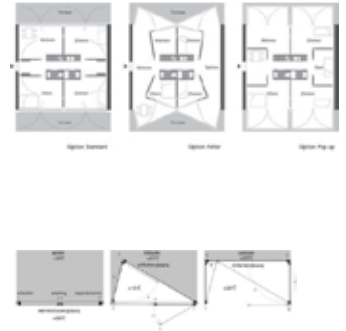
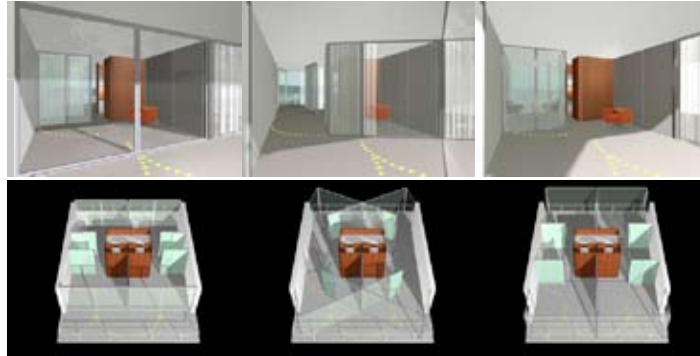
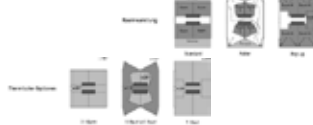
study/research on spatial flexibility of apartments

Theme: This study deals with spatial options within standard sized apartment buildings. Common apartment structures are equipped with flexible components to provide spatial elasticity concerning short or long term cycles:

- optional use of the balcony
- optional size and shape of rooms
- optional number of rooms
- optional response to the climate

Elements: Inner core offers a fixed set of sanitary equipment and circulation. Flexible elements allow an adapting to changing needs of the user:

- box-type double window: two independent mobile window layers with flexible joints
- inner walls: flexible wall wings, connectable with the window casements



Apartment: Mies_update

Study for contemporary flexible residentials, "Weissenhof 14-20"

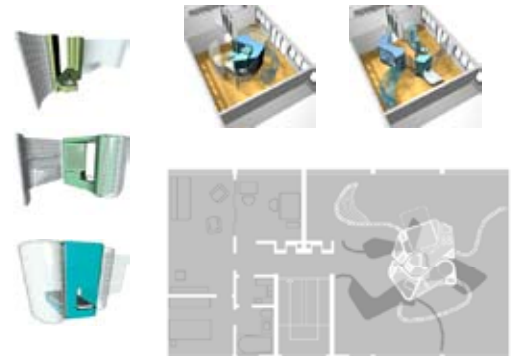
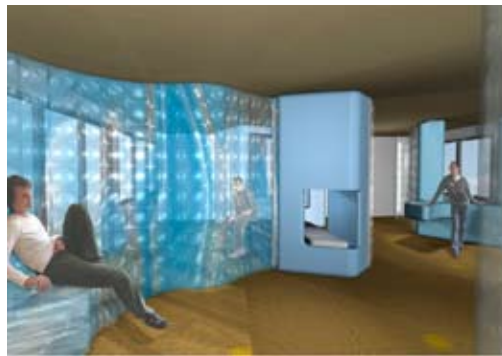
Theme: Connecting up with Mies van der Rohe's ideas of the "largest liberty in the way of using" or the "flowing space" the project interprets the floor-plans of its apartment building on the background of contemporary techniques and materials. Breaking up conventional spatial categories and hierarchies such a "living" structures can be adapted to the user's short and long-term needs.

Elements: Mobile type furniture objects with space grasping pneumatic walls provide different options regarding:

- functional organisation
- spatial configuration
- atmosphere

While the hard wall shells take up technical infrastructure, the extendable pneumatic volumes can be easily deformed in three-dimensions (wall as well as furniture use). These volumes can be informed additionally by means of new coatings with:

- heat and electrical conductivity
- light and information conductivity



Row house: Wild card - Interspaces

design/construction assignment for a new row house development

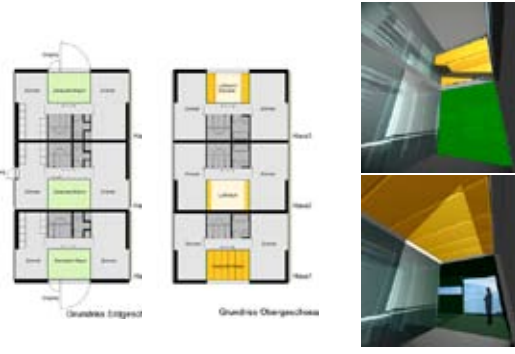
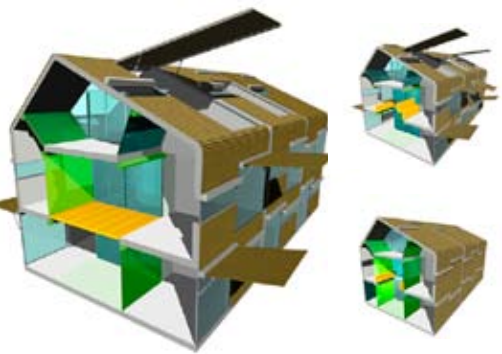
Theme: Using a typical volume of a 2,5 storey row house this design investigates a new inner three-dimensional layout offering spatial transmittance and flexibility between the rooms as well as between inside and outside.

Elements: Optional room separations offer different spatial connections:

- flexible roller shutter walls provide alternative room layouts
- foldable floor elements ("tatami" like) can also be used as a bench within a double storey space
- as a result an optional "wildcard" space can be created depending on different needs

The outer skin is also permeable and changeable:

- flexible wooden roller shutters and a hydraulic hinge mechanism allow different visual contact to the landscape



Extension: Tournesol

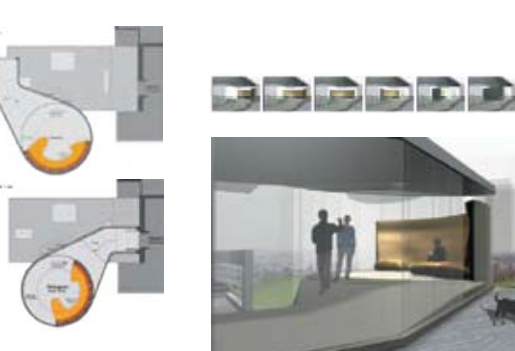
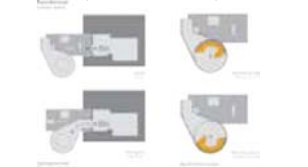
Extension of a villa from the 1970s

Theme: The owner of an existing house on a site with a prominent view but daylight problems was asking for an extension without taking his summer seating place. The concept is looking for a maximum daylight location for that addition and different options of connecting - depending on the season.

Elements: The new space is constructed as a twistable structure. Offering two different positions and spatial relations causes a change of typologies:

- freestanding pavilion (summer) offers a new patio and new views
- winter garden extension (winter) offers a direct access from the house

The turntable seating furniture and the skylight can modulate and celebrate the sunlight and view conditions through various options.



ADAPTABLE HOUSING

Demographic change and alternative housing models

Flexible modifications of existing buildings

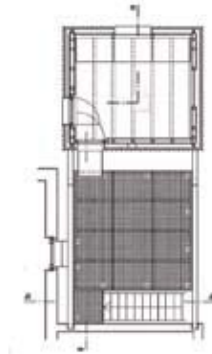
Addition: **Fahrt ins Gruene**

Movable extension of a traditional timber-frame house

Brief: The task was to create an additional study to an existing typical timber-framed house. The clients inhabited the ground floor and wanted to continue to accommodate a tenant living on the first floor but the additional space requirement would be temporary given that the upper floor would be subsequently shared and an old greenhouse would be substituted within a few years.

- Concept:**
- Proximity: Stronger integration of the house and the intensively used garden
 - Adaptation: Providing for different requirements during the summer and winter periods
 - terrace only in use during the summer
 - immediate access from the house during the winter
 - move the extension according to the season
 - Metamorphosis:
 - extension will change function since shared use of first floor is envisaged
 - after disassembling the interior addition can be converted into a greenhouse
 - the exterior appearance will change as a result of the interior transformation
 - Context: The proportion of the new building will mimic an existing extension added in the 1950s, a distinction is established by a material difference producing a set of 'dissimilar twins'

Material: - steel framework with sliding mechanism
- metal grating terrace with quickly dismounted railings
- transparent corrugated PVC panels covering reflective aluminium fabric



Mobile interior: **Do it yourself**

Conversion of a house from the 1920s

Brief: A terrace house in a co-operative settlement with two identical floor plan levels had to be renovated and adjusted to the requirements of a new proprietor.

Concept - Living as a process: The existing ground floor shell is reduced to its essential structure to provide a large general space. There are no fixed elements placed onto that platform to offer a functionality and a formal open system. New mobile kitchen elements are offered to be arranged in optional positions by the user. Likely varied spatial demands through changes in occupation and inhabitation of the client will constantly produce new combinations of spatial relations.

- Elements**
- Kitchen elements: mobile industrial manufactured stainless steel kitchen components include sink and cooler
 - Service boxes/stations: technical and atmospheric support stations offer junctions for kitchen elements (gas, drainage, water supply, electricity) at three different locations; can be joined effortlessly to the supply system by coupling devices
 - the stations are covered with coloured and transparent industrial tarpaulin
 - Electric supply: flexible light fittings suspended from the ceiling to allow variable illumination; tracks also supply electricity along the workshop



Flexible spaces: **Le grand bleu**

Conversion of a villa from 1900

Brief: The challenge was for the redevelopment of a typical rural Villa including the restoration of the listed cladding and interior elements. The major design focus became the insertion of a new bathroom into an existing room on the first floor which provided a good structure and quality surfaces.

- Concept:**
- keeping the shape of the room and the existing materials visible
 - enriching the room with different functional and atmospheric options
 - offering a physical and spatial experience to the user

Paravent: An intelligent 'paravent', a folding screen, runs along the existing walls, deviating out into the space and back to the walls. The screen remodels and restructures the room through making space visible or hidden. The 'paravent' offers hidden functional and technical infrastructure:

- toilet, plumbing, electricity, lighting and heating
- storage, washing machine and dryer
- pull-out wardrobes/curtains and tables

 The 'paravent' changes the appearance of the existing room by reshaping the walls as an independent soft edged screen with smooth form joints and introducing a blue atmosphere (like waves flooding the room).

Curtains: Pull-out curtains create additional intimate and organic subspaces within the 'paravent' space and within the entire existing room. Soft white canvas, very sensual for skin and eyes, are modulated by changing light conditions (like sails).



Satellite: **time pavilion**

spatial sculpture as an additional satellite living space

Brief: The pavilion is designed to offer additional space and different living room qualities beyond the existing spatial limitations of the house.

Concept: The satellite pavilion reinvents qualities of the primal hut and creates a contemporary contribution to living. The temporary structure provides a refuge to experience an invigorating interplay: interior/exterior and subject/ volume.

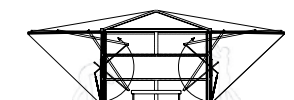
Archetype: As an archetype of housing the pavilion provides:

- form: solidity and a harmonic conic shape
- function: shelter and retreat
- atmosphere: introversion, contemplation and comfort

Invention: The metamorphosing structure deals with the transition of the traditional interior through the transformation of its skin. The operable outer walls offer different degrees of spatial connection to the surrounding landscape. The pavilion also stands for contemporary mass-produced technology and uses industrial prefabricated constructions and material:

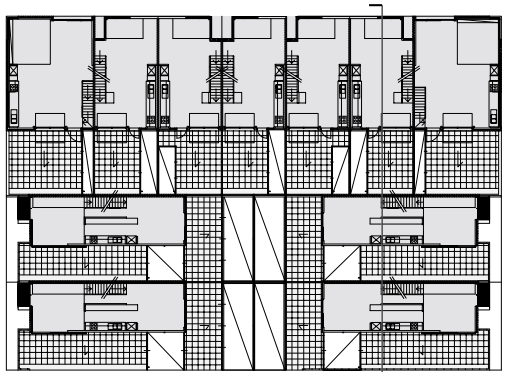
- one-piece lift garage doors
- steel cable bracing for structural support
- white, water-resistant polyethylene membrane as outer weather skin
- red safeguard scaffolding net as translucent interior atmospheric fabric
- high-performance adhesive tape attaching both membranes to the steel parts

Laboratory: Beyond common expectations a dynamic laboratory of spatial experiences is provided to the user. All flexible outer walls can be raised independently, allowing the interior space to gradually vanish. Ultimately the closed intimate structure transmutates into an airy sheltering roof that offers protection from rain and sun, but otherwise melts with the landscape.

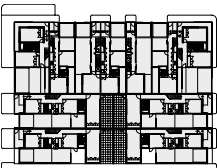




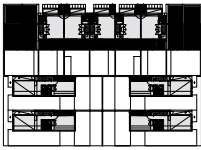
napier street townhouses



first floor 1:200



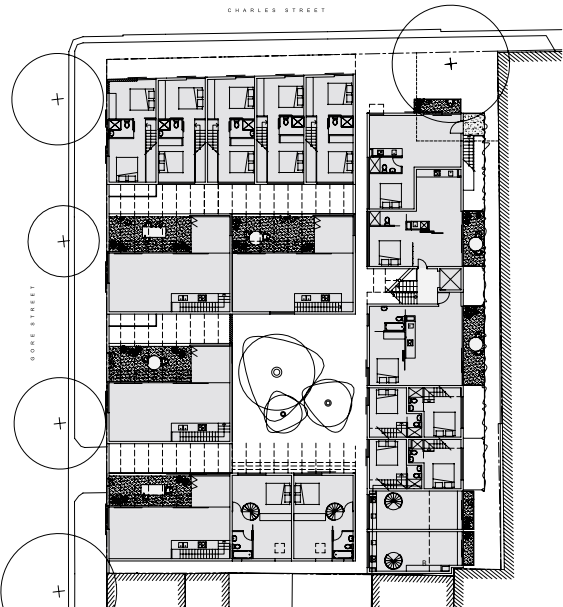
ground floor 1:500



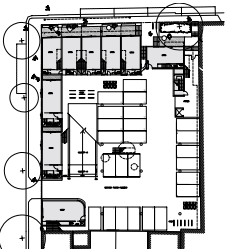
mezzanine 1:500



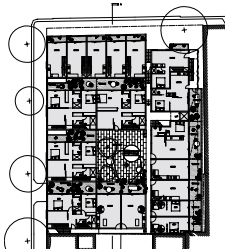
gore street mixed use development



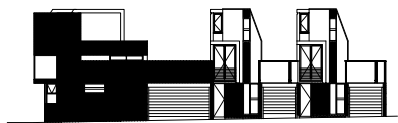
second floor 1:200



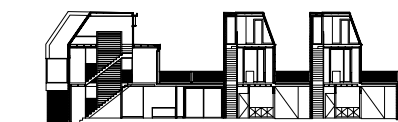
ground floor 1:500



first floor 1:500



west elevation 1:200



section B-B 1:200



napier street townhouses

Fitzroy (1998 - 2001)

RAA Architecture Award 2002: Multiple Residential

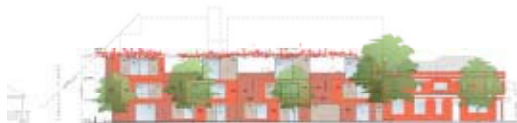
Napier Street Housing is a cost-effective development, which consists of eleven dwellings with seemingly spacious proportions, generous roof terraces and flexible options for occupation. The project is also an act of urbanism - it changes the space around it with connective possibilities and explores the interface between the building and the street, past and present.

It understands the site as part of a much larger urban system and uses the architecture to consolidate and extend this system. Drawing upon the formal, material and typological traits of South Fitzroy, the units are an intervention that is irreducibly local and specific. Transforming a series of nineteenth century terrace dwellers into a cohesive whole the development proposes an alternative model for medium density housing.

In dialogue, rather than in denial, Napier Street Housing produces a resonance with its surroundings by intervening difference rather than simplistic contextual deference.



street interface



west elevation



north elevation



gore street mixed use development

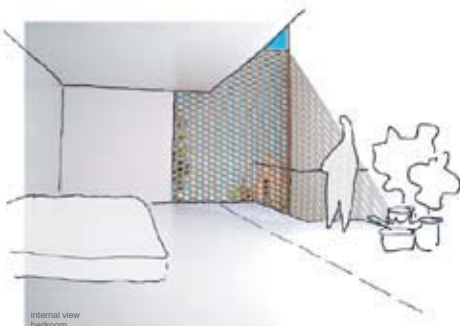
Fitzroy (2004-) status: planning approval received

Located on a prominent corner site within a valued heritage precinct of inner Melbourne this proposal provides 29 dwellings and commercial space adjacent to the street edge.

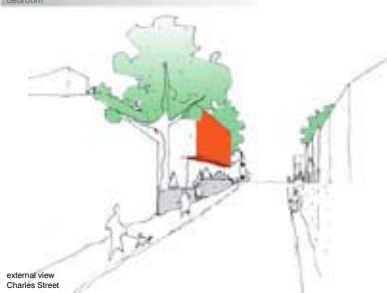
A considerable range of dwelling types have been accommodated in response to the need for housing diversity including three level townhouses and single level apartments. A relatively high-density yield has been achieved to exploit the site's ideal potential to meet key imperatives of Melbourne's 2030 policy for urban consolidation. This density is supported by excellent design to also achieve very high levels of amenity both within and adjacent to the site. The rigorous application of environmentally sustainable design principles attain excellent qualities of light to interior and exterior spaces and passive heating and cooling. Landscaping strategies for the proposal extend these principles.

Floor plans are flexible to respond to changing household configurations and to accommodate the home office.

The proposal demonstrates how new infill architecture that meets contemporary work/living expectations can also positively contribute to and extend the valued attributes of the rich existing context of South Fitzroy.



internal view bedroom



external view Charles Street



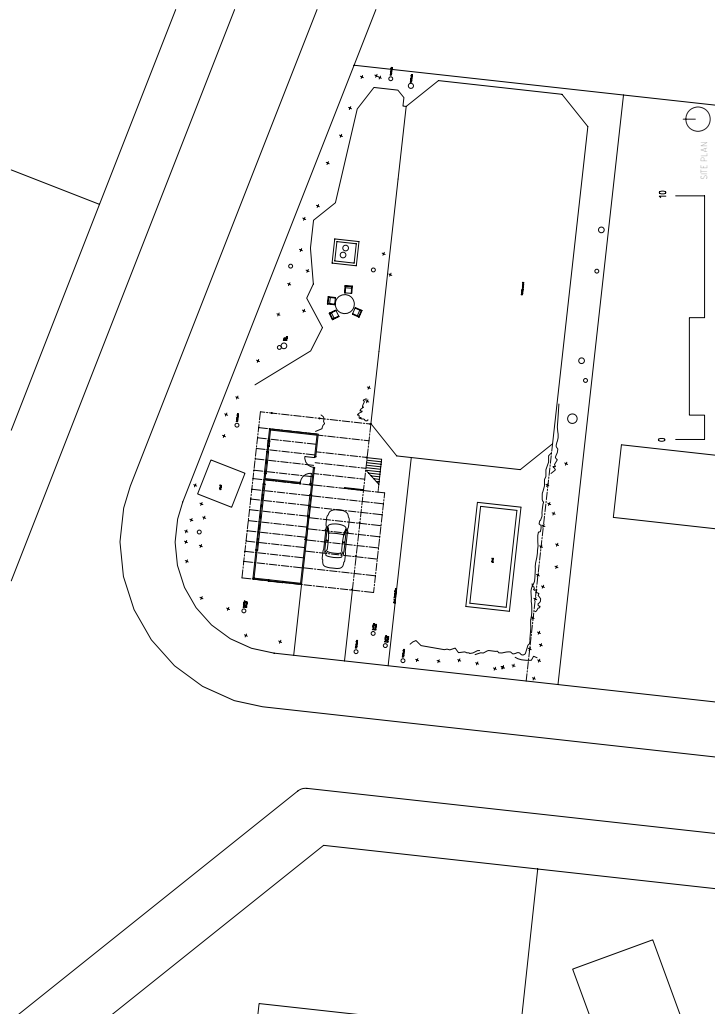
proposal strategy

Red areas identify examples of a local building typology characterised by multi-story mixed use buildings, generally angular in form with red brick facades, and often situated on corner sites with full site coverage.

MUZ - Mixed Use Zone
B1Z - Business Zone 1
B3Z - Business Zone 3
R1Z - Residential Zone 1
PUZ1 - Public Use Zone 2

Subject Site





Maureen

Case study - Evans Street house, Somers

In studying the two-story house type it is interesting to look at the home on the corner block of Evans Street and Oxyg Court. Primary living spaces are lifted off the ground and are oriented toward the sea view. The house was constructed in the 1960s (most likely 1966) by the original owner-builder to be used as a weekenders.

Despite the larger than average block size, the house is sited on the north west corner of the site, possibly to allow room for the tennis court which was built sometime after construction of the house.

The house ignores both street frontages to face the sea view. Tennis court and the garden spaces at a south-side of the house. The filled house faces up the street and allows a visual relationship between the street 'front' and rear through the under-house space. This under-house space acts as an entry threshold allowing direct access to garden spaces (outdoor social area/ BBQ/eating) without entering the house.

The ground level is organized so that a car can enter under the house from the west side on Evans Street. The original garage space was extended to allow for extra sleeping, storage and games.

The house is entered by an external stair adjacent to the car parking space. The stair leads up to the main deck and front of house marking 'arrival'.

The entire front of the upper level facing the view holds semi public, social spaces (ounge/dining/kitchen/entry) with large glazed openings that set up views into and across the site; the deck is perfect for watching tennis or pool, the kitchen is visually connected to the barbeque area and you can wash the dishes with a view of the tennis court.

Bedrooms and the bathroom are to the rear north side of the house. Gazing is limited but allow views into the treetops which the current owners are fond of. These are spaces of retreat with lower ceiling levels but still feed onto the social spaces to the south.

The kitchen has been modernised sometime after construction and the bathroom was renovated by the current owners who have continued to use the house for weekends' holidays for the last seven years.

The upper level is clad in fibre cement sheeting with exposed ceiling rafters. The house is supported on round steel columns.



ten division - public/ private

Sectional division - public/private

Structure

editions through time

access/entry - section

successful entry = plan

Pastime: Post-war Beach Houses

LUCINDA MCLEAN

Case study - Wirilda Court house, Somers

Project location

The Wirilda Court houses, known as the Boat House, were built in 1950 by the Thiele family. These reflect the owner's affinity with boating and are inscribed with the word 'trailing'. It is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean.

The house is oriented to face the street, which is parallel to the coast. It is generously set back from the road to take advantage of views to the ocean from interior living spaces and the large deck. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean.

The majority of established trees are planted at the sides of the house. These were planted by the Thiele family in the 1950s and are a mix of species, including many beautiful gums. Enclosing a wedge to the west of the house, the site is not densely planted with trees. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean.

The Boat House is sited in the middle of its site. Circulation from the ferry yard to the back, is facilitated through the house by way of stairs. One arrives at the house after passing under the main living space, and taking a full flight of stairs to the back deck. A door at the rear of the house opens onto a large deck. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean.

Alternatively, the house could be entered by passing along its side to the west to a large deck. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean.

The only addition may have been a third bedroom at the end of the planned arm. This is indicated in the plan configuration as well as form a change in the exterior wall cladding. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean. The house is a two-story house with a prominent central chimney and a large deck. The house is situated on a landscaped site with a view of the ocean.



The corridor

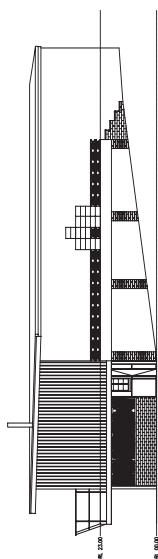


This barbecue built into the portico wall of the deck.

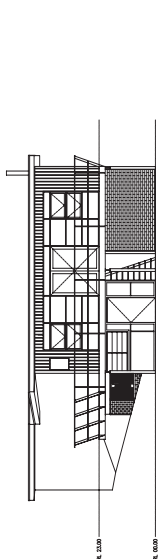
'trailing'



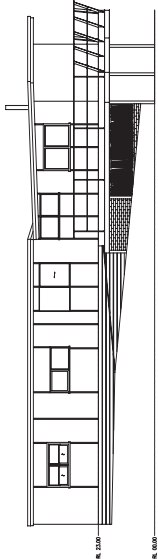
NORTH ELEVATION



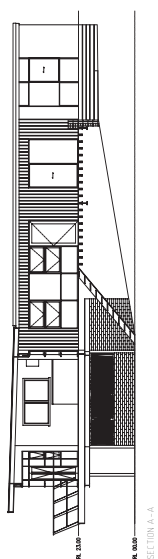
EAST ELEVATION



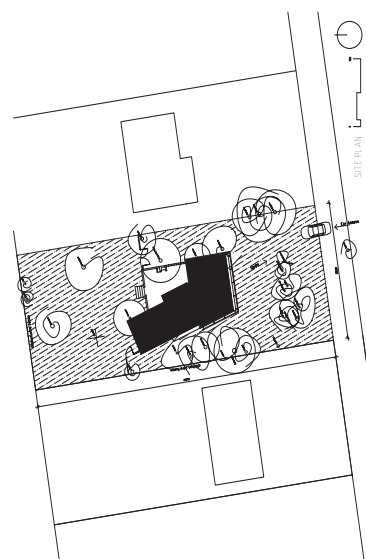
SOUTH ELEVATION



WEST ELEVATION

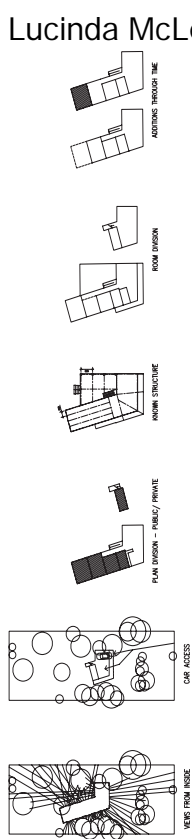


SECTION A-A



SITE PLAN

Lucinda McLean



VIEW FROM DECK

PLAN VIEW - PUBLIC / PRIVATE

KNOWLEDGE

ROOM DIVISION

ADDITION THROUGH TIME



THE PHOTOGRAPH TAKEN IN THE 1970s LOOKS AT THE SIDE OF THE HOUSE.

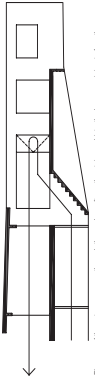
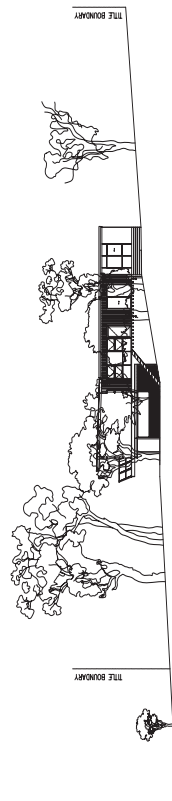
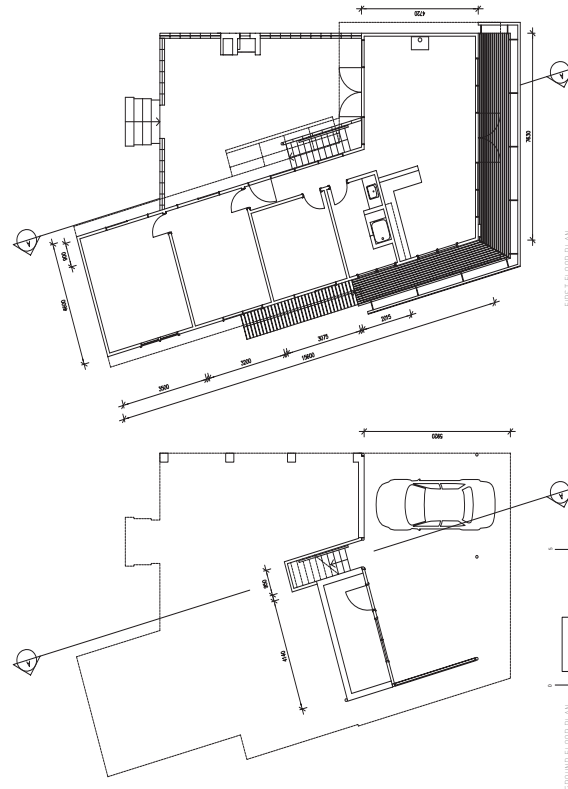


Diagram of the entry sequence through the house, arriving to face the ocean.



SITE SECTION A-A 1200



FIRST FLOOR PLAN

GROUND FLOOR PLAN

Pastime: Post-war Beach Houses

Ludinda McLean

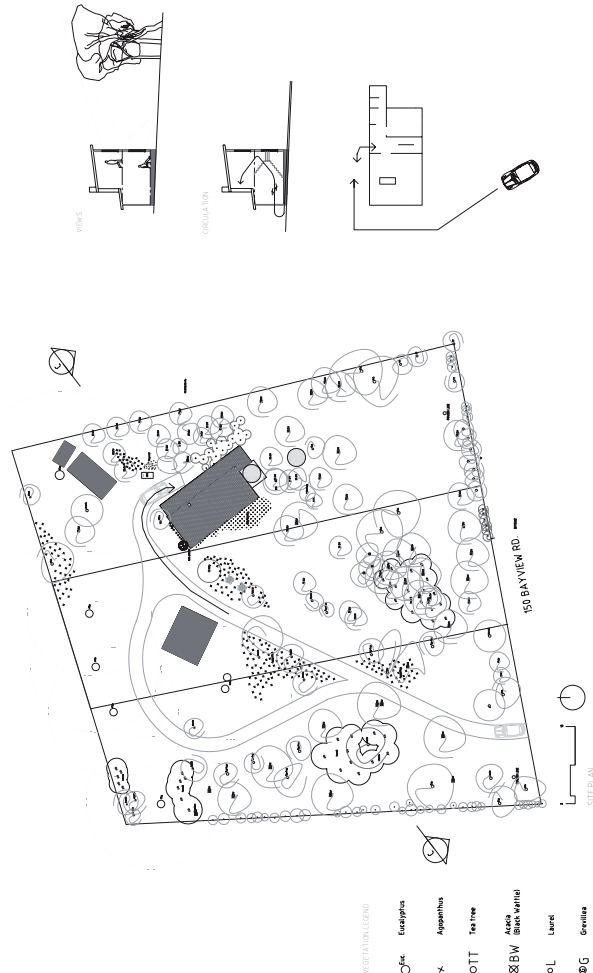
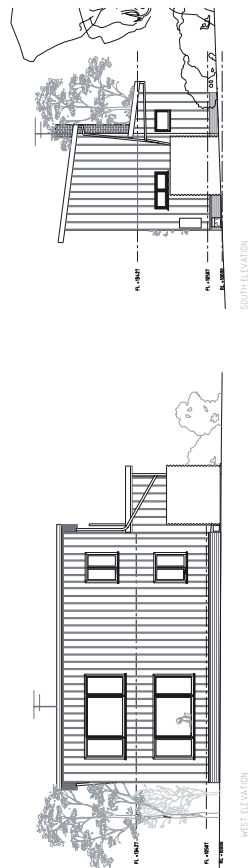
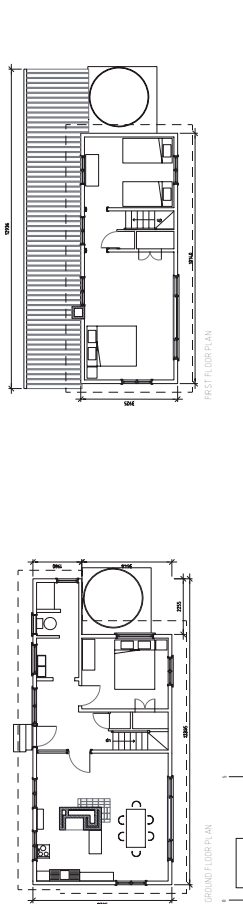
Case study - Bayview Road house, Merricks Beach
 Cliff Rahak

THE SHACK

Forcely remembered by all the Chaddocks, the shack often housed up to eight people on weekends during summer. Built from the red box timber of an old chicken farm, it was arranged with a kitchenette and Nell's bed on the one side and a lounge with a double bed on the other. A dining table and chairs, a cupboard and washbasin were also built into the shack. On busy days, however, a cot and washbasin were brought in from the nearby army and air force canteens. Cook and laundry were done outside at the same time as the shack. In a cubicle toilet and laundry was built at the same time as the shack. In an outdoor toilet, the 'Pan Handler' would come around at the end of each day to take the refuse away.

The shack allowed for weekend recreation and holidays from the busy and strenuous working of two large scale fruit orchards near Donvale.

After planning legislation in 1952, requiring shades to remain only if accompanying a house, Neil then proceeded to arrange for the building of the main house in 1956.



THE HOUSE

Narvand" was built in 1956. Mrs. Neil Chadwick - born in 1903 in Melbourne, and still the current owner, originally bought two blocks, and then a third in 1968 for £70 each. Neil employed an architect to design the house, but framed the construction of the house herself. The structure is a timber frame, clad with fibrous cement sheet and Oregon strapping. The roof is iron sheeting. The interior walls are clad with timber. Assisting the builder often involved the Chadwick family on weekends during construction.

The two stately houses were positioned high up on the back of the blocks and the two streets were laid out to lead the eye from the back of the blocks to the southeast to gain maximum view to the sea. At the time, the fashionable tastes did not look the view to the bay and the large pines, now the defining feature of the landscape, were not planted. The houses were built on the seaward side of the street, the position of the entrance at the rear of the building was as for a particular reason of keeping the noxious southerly wind out. The houses were a pragmatic reaction from a family member, who was not well at the time. The houses were built in 1860, the year of the first census. The houses were the original houses at that time in Merivale Bay. The kitchen still houses the original stove for the house. The house was built by a family member, who was not well at the time. The houses were built in 1860, the year of the first census. The houses were the original houses at that time in Merivale Bay. The kitchen still houses the original stove for the house.

Director: Bill Baskin

Before the trees blocked the view, the upstairs was favored as a living room, while downstairs doubled as both dining and living. After the view was blocked by the growing trees, the upstairs program changed from living area to bedroom.

HISTORICAL COMPARISONS, 1950 - 2005

These photographs combine scans of original black & white, taken between the late 1940's and 1960's, and recent photographs taken by Ralf Rahbek. Many thanks to Baden and Peter Chadwick for locating the originals.

Figure 1 was taken 2005

Figure 1 was taken 2005

Left: Lenore Olschick around 1950 standing on the stairs of the club. Right: from left: Michael Trevor, brother of Lenore, and Mary Olschick.

left bed in the living room, showing both the ideas and the corner fireplace. (Right: 2005) Note the original furniture still in good condition.

Photo's Ruff Retake 2005 & Original BMW, courtesy Baden Oetwald - personal archive

suburban intervention

site area: 20mx50m=1000m²
no.1 low density lot
no.2 compact houses
density increase from
10 to 20 dwellings
per hectare

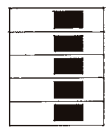


Existing



Proposed

built form



Existing

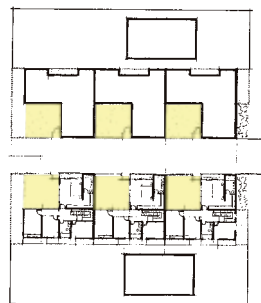


Proposed

Masterplan

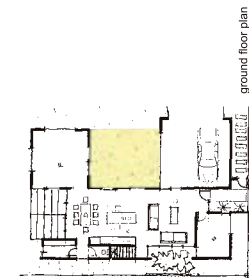


ground floor



Upper floor

detail floor plans



ground floor plan



upper floor plan

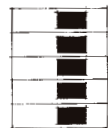
massing model



inner city/urban intervention

site area: 30mx40m=1200m²
no.3 small lots
no.8 compact houses
density increase from
25 to 50 dwellings
per hectare

built form

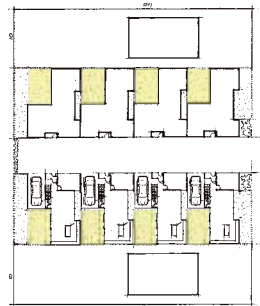


Existing



Proposed

Masterplan

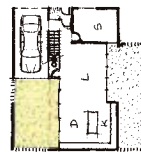


ground floor

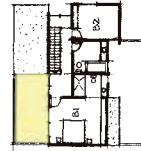


Upper floor

detail floor plans



ground floor plan



upper floor plan

massing model



inner city/urban intervention

site area: 30mx40m=1200m²
no.3 small lots
no.8 compact houses
density increase from
25 to 60 dwellings
per hectare

built form

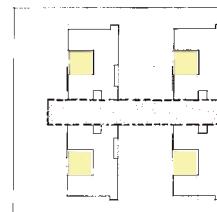


Existing



Proposed

masterplan



services spine



cultivated court



car accommodation

detail floor plans



ground floor plan



upper floor plan

massing model



rural intervention

site area: 50mx50m=2500m²
no.1 rural small lot
no.4 compact houses
density increase from
4 to 16 dwellings
per hectare

built form

the compact courtyard house

macro testing of house typology

marco ramaccio calvino

In the last twenty years Brisbane has experienced rapid growth. Through increased infrastructure and population, the city has expanded from 100 km² in 1970 to 1,200 km² in 2010. The city is now a global city, with an international reputation for its lifestyle, culture and innovation. The city's growth has been driven by a combination of factors, including a strong economy, a high quality of life, and a commitment to sustainable development. The city's growth has also been driven by a combination of factors, including a strong economy, a high quality of life, and a commitment to sustainable development.

compact courtyard houses represents the design of a new type of housing that combines the benefits of a compact, efficient design with the benefits of a courtyard. The design is based on the principles of compactness, efficiency, and sustainability. The design is based on the principles of compactness, efficiency, and sustainability.

1. The development of a compact house.
2. The development of a courtyard.
3. The development of a compact courtyard house.
4. The development of a compact courtyard house.
5. The development of a compact courtyard house.
6. The development of a compact courtyard house.
7. The development of a compact courtyard house.
8. The development of a compact courtyard house.

The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

integrated living and sleeping. A 3.5 metre by 4 metre courtyard house which would accommodate a two bedroom house. The house is designed as a compact, efficient design with a courtyard. The house is designed as a compact, efficient design with a courtyard.

living/courtyard flow. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

streetscape elevation. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

multi generational house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

designing for typography. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

floor plan flexibility. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

designing for climate. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

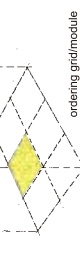
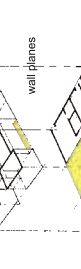
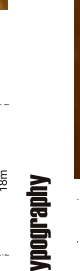
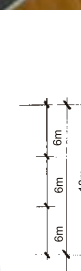
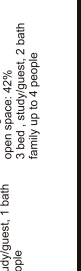
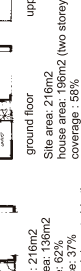
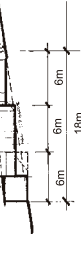
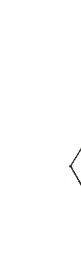
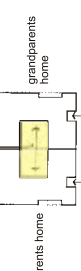
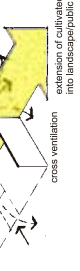
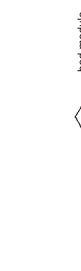
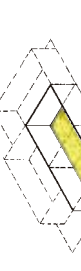
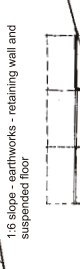
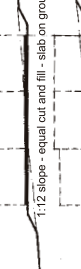
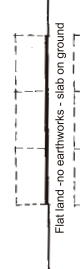
slope analysis. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

pod arrangement. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

pod stacking. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

structural logic. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.

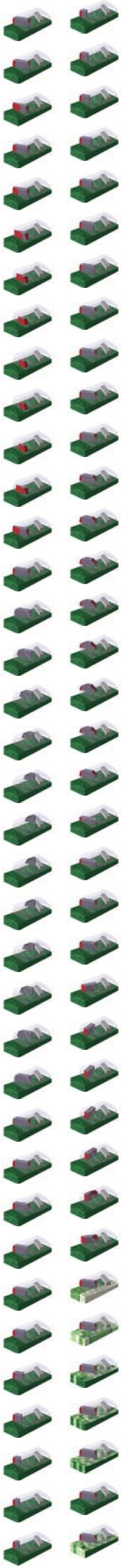
developed axonometric. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house. The research is led by studying the dimensional requirements of the larger scale of the 100 m² area, which is the minimum area required for a compact courtyard house.



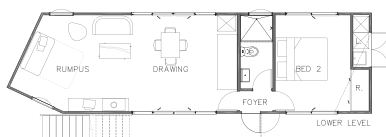
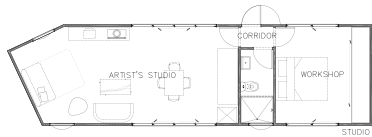
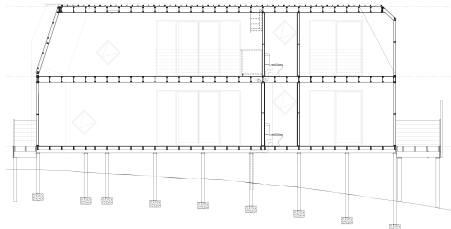
the compact courtyard house

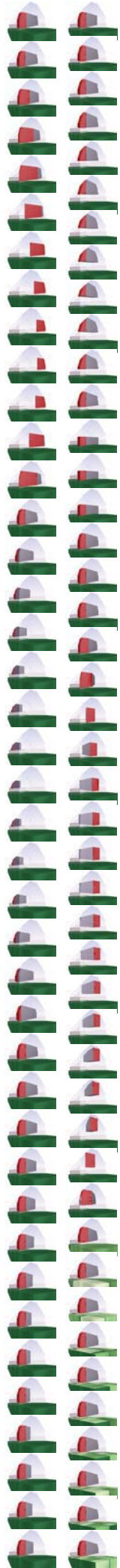
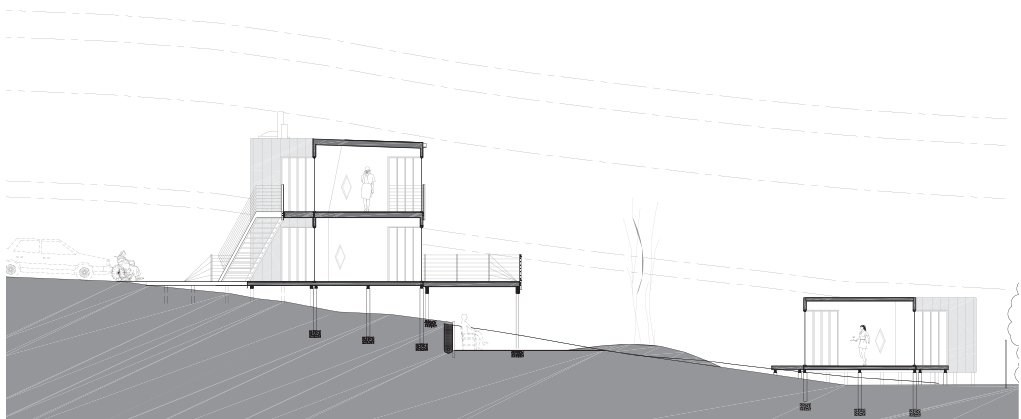
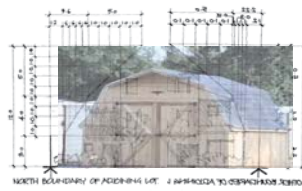
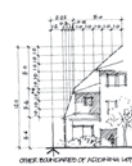
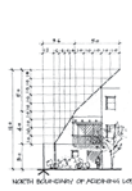
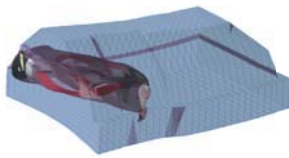
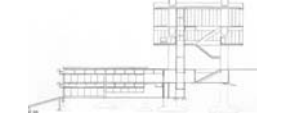
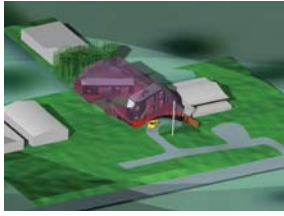
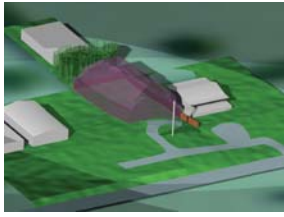
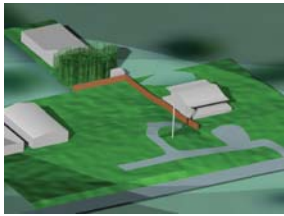
micro development of house typology

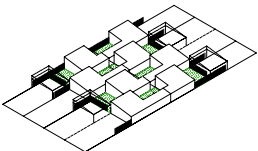
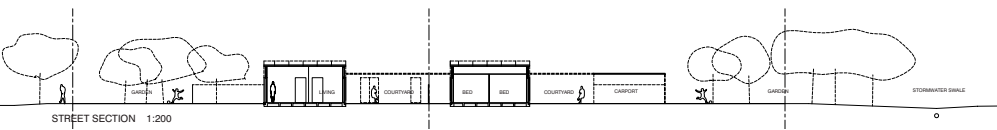
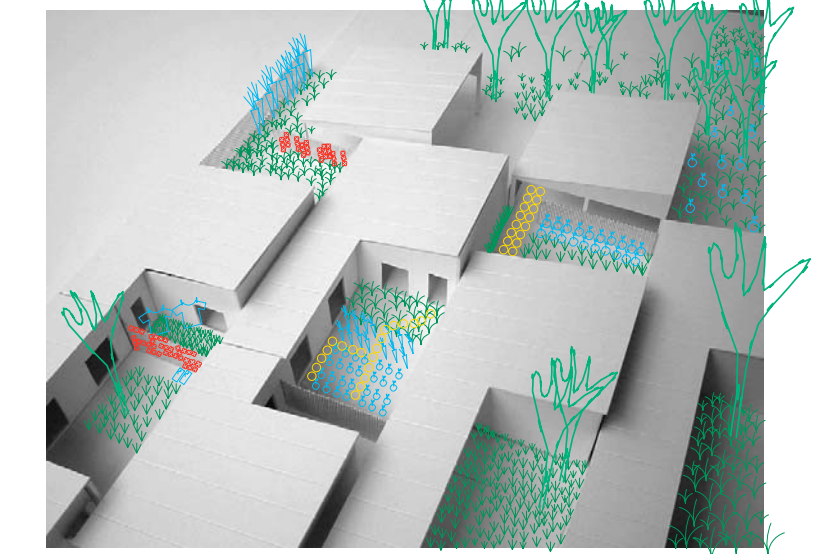
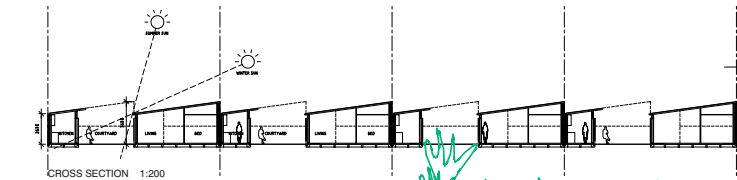
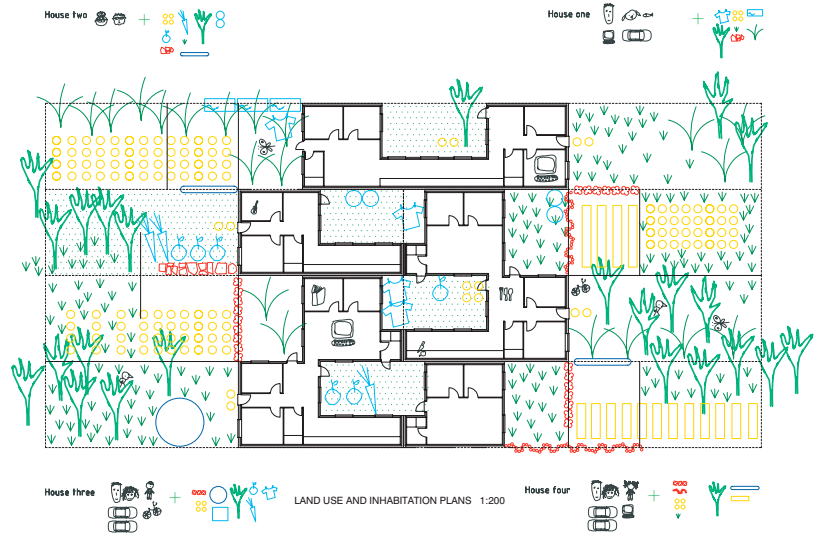
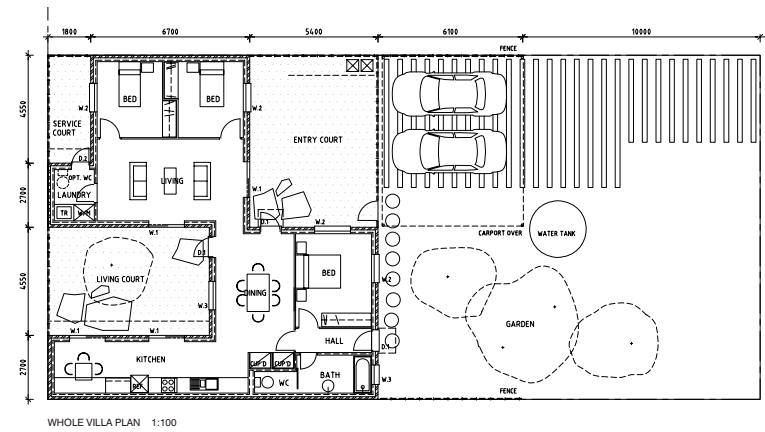
marco ramaccio calvino



The Lovenasium— A 4D housing case study.







COURT VILLAS

This design proposes a simple system for providing housing diversity on standard lots. Modular courtyard building elements are arranged on 1, 2 or 3 adjacent parcels of land (each parcel is 0.5 of a standard lot), with options of internal and external connections between. Each villa type can be built as an individual house or in combination with other types for small developments of 2, 4 or 6 sites.

| | |
|---|---|
| 1 | 2 |
| 3 | 4 |

Four sites 14.5m x 30m

Buildings occupy the centre section of the urban block, leaving wide verges to the street fronts, where it is proposed that landscaping merges with street/ swale planting over time to create generous, green corridors of semi-private parkland. Carports are proposed as flexible structures within this zone, providing shade and a range of possible outdoor uses.

| | |
|---|---|
| 1 | 2 |
| 3 | 4 |
| 5 | 6 |
| 7 | 8 |

Divided into eight equal land parcels

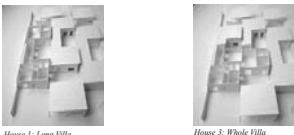
LANDSCAPE CONCEPT
Acknowledging the language of economics, marketing and sales that underpin new housing developments, the proposal offers a landscape design based on choice, with a flexible palette of materials and products made available as options to each occupant, and promoting important environmental connections with the broader landscape.

These choices work in tandem with the siting of the building, for example through the careful siting of shade trees along building facades, or through the consolidation of garden space towards the front of the block (close to the roadside swale) providing a more effective green corridor. Similarly, the fencing between blocks is also reconsidered, with a number of functional and low impact alternatives avoiding the 'dead' boundary space produced by the traditional timber paling fence.

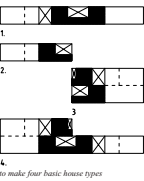
| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |

Parcels can be re-grouped in different ways based on choice

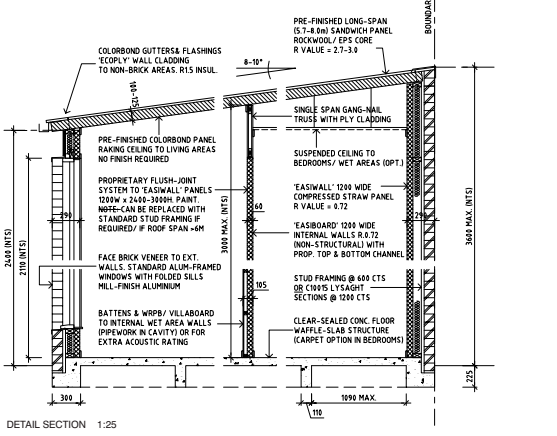
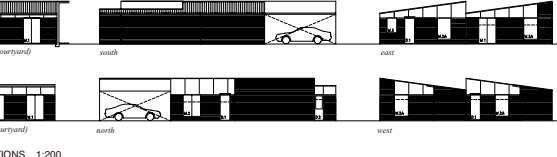
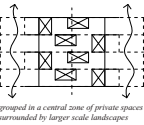
Living Options -
Family/Family with grandparents/teenagers/home-stay/Family with semi-attached workplace/Single person/Semi-dependent elderly person/Share house for two couples with separate entries/Retired baby-boomers with variable degrees of sharing/Couple with home business/Single parent(s) with children...



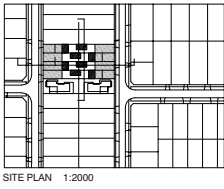
House 1: Long Villa 12m x 2, two street addresses
House 2: Half Villa 7m x 2, single frontage
House 3: Whole Villa 12m x 2, double fronted
House 4: Extra Villa 17m x 2, two street addresses

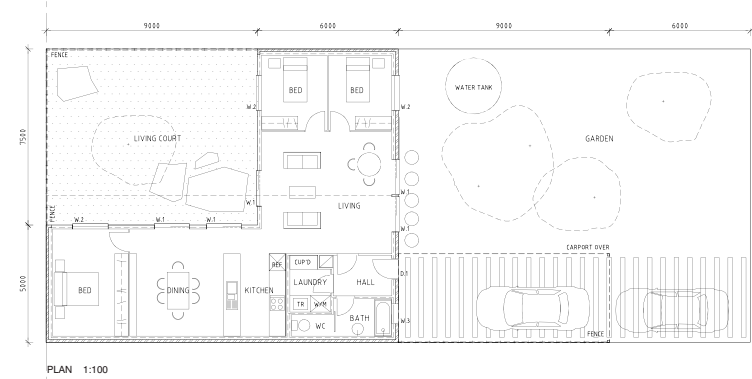


to make four basic house types

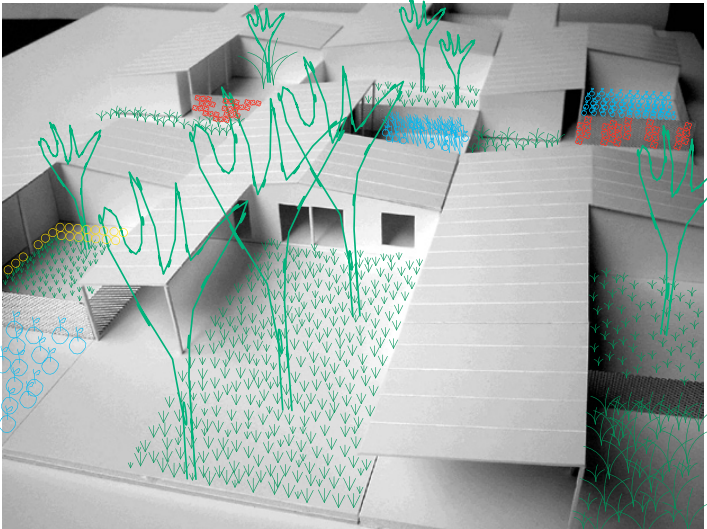


MATERIALS AND CONSTRUCTION
Our proposed construction uses simple prefabricated systems combined with standard domestic building practice to achieve greater speed of construction, cost savings, energy efficiency and internal flexibility. Pre-finished long span roof panels allow for more generous sloping ceilings to living spaces and are assembled easily in minimum time. They combine roof sheathing, roof structure, insulation and ceiling finish in one element. Internal walls are hence non-structural, and are proposed as environmentally friendly compressed wheat straw panels with high impact resistance and acoustic-thermal insulation qualities. Floors are clear-sealed concrete for flexibility of use and passive thermal gain. Walls are a combination of face brick veneer and plywood cladding. (Costing based on Panel Tech 'Thermaspan' roofing system).

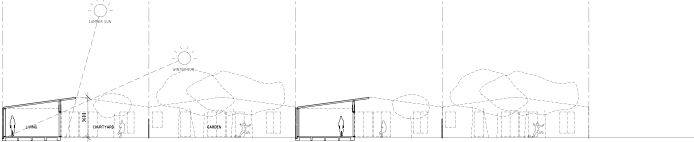




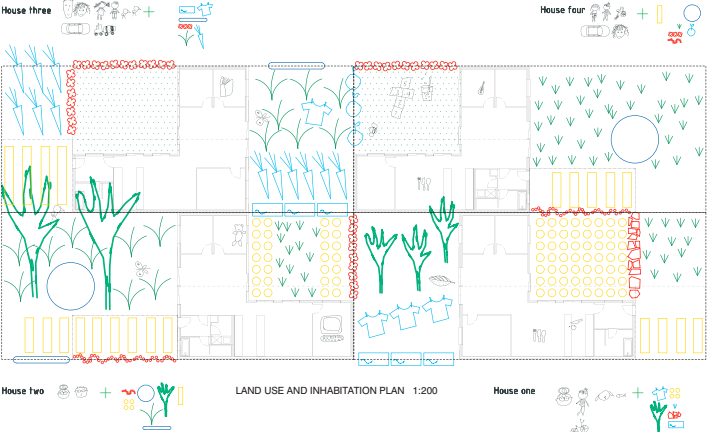
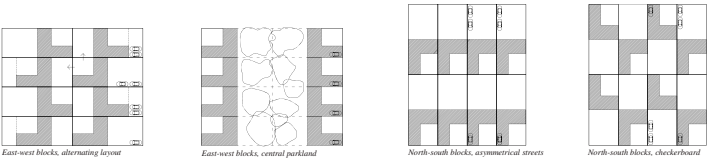
PLAN 1:100



VIEW WITH LANDSCAPE



CROSS SECTION 1:200



STREET SECTION 1:200



CORNER LOGGIA

The Corner Loggia is structured around the different external spaces which an L-shaped building creates. These hard and soft landscape spaces work together within each property but also achieve a greater effect when 2 or more adjacent properties are considered. Each square living courtyard is fenced for privacy and has views to larger-scale gardens in 2 directions. This achieves a greater sense of openness and permeability than conventional suburban siting strategies, and maximises effective use of the whole property.

The building itself takes different configurations of roof, walls and carport depending on site orientation and adjacent buildings. It makes different types of edges to the different spaces it faces. The inherent flexibility and equality of the L-plan allows many siting combinations, all with direct access from living areas to large garden and private courtyard spaces. The resulting series of different roof and carport layouts provides depth, variety and visual interest from the street.

LANDSCAPE CONCEPT
Acknowledging the language of economics, marketing and sales that underpin new housing developments, the proposal offers a landscape design based on choice, with a flexible palette of materials and products made available as options to each occupant, and promoting important environmental connections with the broader landscape.

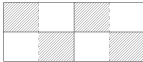
These choices work in tandem with the siting of the building, for example through the careful siting of shade trees along building facades, or through the relationship of private gardens to public street planting/ roadside swale space, providing a more effective green corridor. Similarly, the fencing between blocks is also reconsidered, with a number of functional and low impact alternatives avoiding the 'dead' boundary space produced by the traditional timber paling fence.

| | |
|---|---|
| 1 | 2 |
| 3 | 4 |

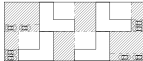
Four sites 12.5m x 30m



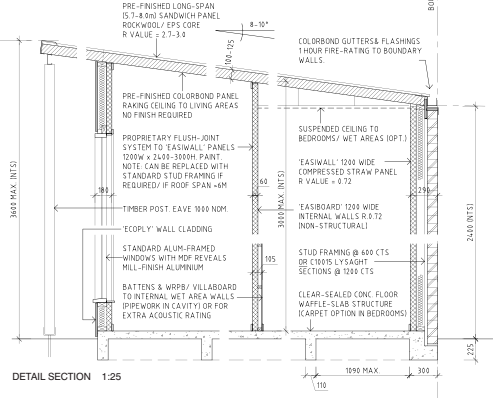
Each site divided



Checkerboard of hard and soft spaces



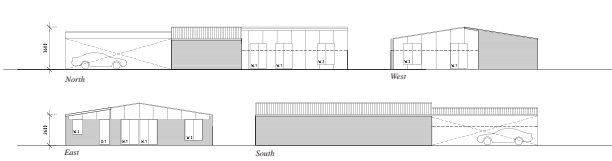
Combination of four houses and different landscaping



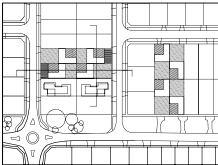
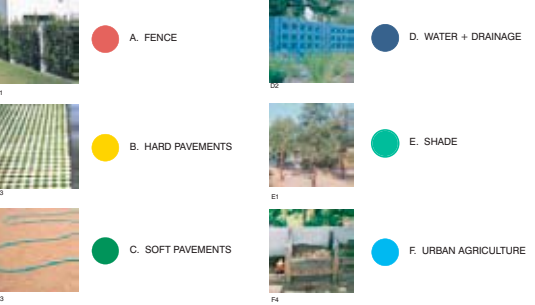
DETAIL SECTION 1:25

MATERIALS AND CONSTRUCTION

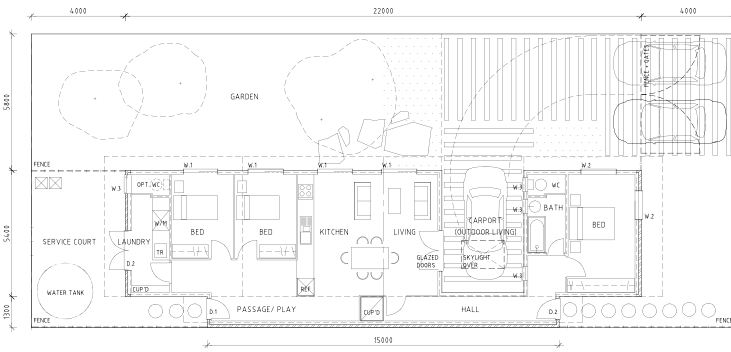
Our proposed construction uses simple prefabricated systems combined with standard domestic building practice to achieve greater speed of construction, cost savings, energy efficiency and internal flexibility. Pre-finished long span roof panels allow for more generous sloping ceilings to living spaces and are assembled easily in minimum time. They combine roof sheeting, roof structure, insulation and ceiling finishing in one element. Internal walls are hence non-structural, and are proposed as environmentally friendly compressed wheat straw panels with high impact resistance and acoustic-thermal insulation qualities. Floors are clear-sealed concrete for flexibility of use and passive thermal gain. Walls are a combination of face brick veneer and plywood cladding. (Costing based on Panel Tech 'Thermaspan' roofing system).



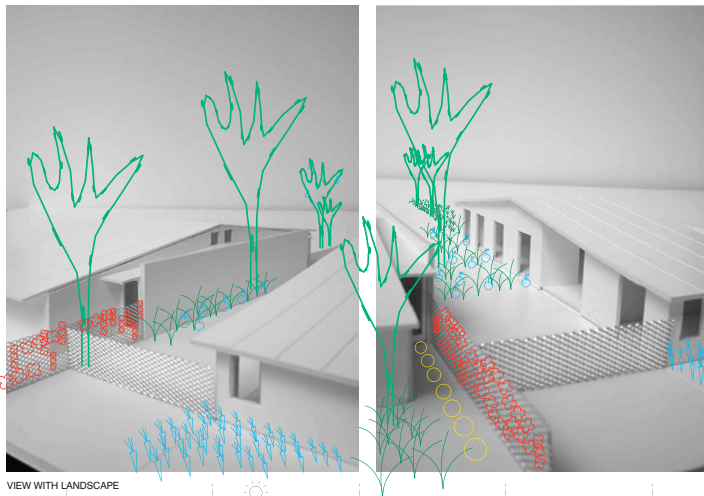
ELEVATIONS 1:200



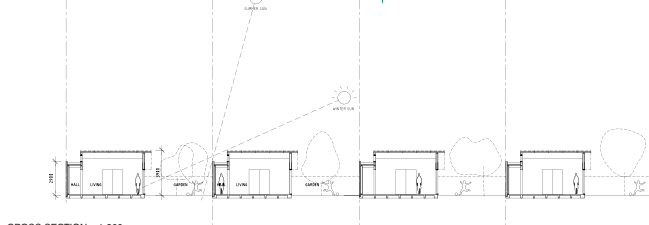
SITE PLAN 1:2000



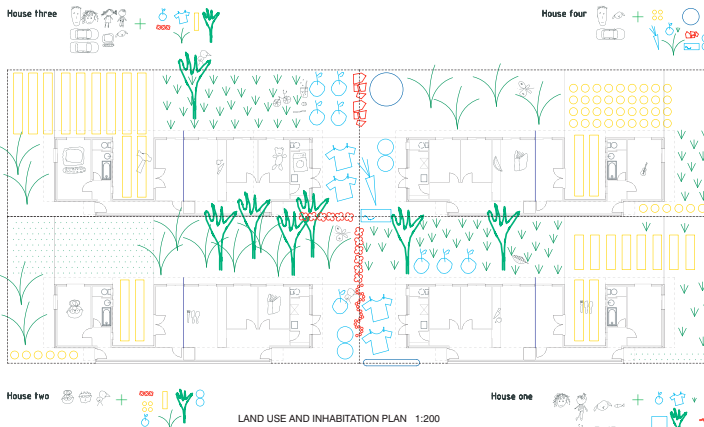
PLAN 1:100



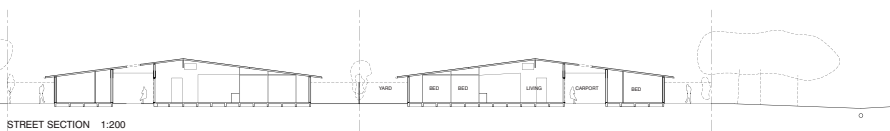
VIEW WITH LANDSCAPE



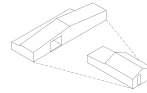
CROSS SECTION 1:200



LAND USE AND INHABITATION PLAN 1:200



STREET SECTION 1:200



LONG COTTAGE

The Long Cottage divides the lot lengthways to make two equal zones – garden to the north and house/yard to the south. The long garden is a secure and flexible space connected to the street, with direct access from all main rooms. Formal front garden entry and rear service yard are separated from this space with fences. The skylit carport is located for easy access to the heart of the house, and also acts as an intermediate space between garden and house for outdoor living, entertaining, or just a generous back porch. The wide driveway can be used for more than carparking.

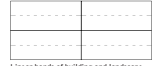
The division of the lot brings the large-scale planting of 'backyards' in contact with the street and allows good solar access to all rooms. South-facing brick boundary walls of adjoining lot-line houses are treated as landscape elements ideal for planting with climbing vegetation. The cottage has a stretched and large proportion from within the property, but avoids overlooking or overshadowing, and appears modest in foreshortened perspective from the street. The design consolidates external private spaces to achieve a generous scale – like having a spare block next door.

LANDSCAPE CONCEPT
Acknowledging the language of economics, marketing and sales that underpin new housing developments, the proposal offers a landscape design based on choice, with a flexible palette of materials and products made available as options to each occupant, and promoting important environmental connections with the broader landscape.

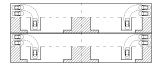
These choices work in tandem with the siting of the building, for example through the careful siting of shade trees or through the consolidation of garden space through the block (from roadside swale through to the next nature strip) providing a more effective green corridor. Similarly, the fencing between blocks is also reconsidered, with a number of functional and low impact alternatives avoiding the 'dead' boundary space produced by the traditional timber paling fence.

| | |
|---|---|
| 1 | 2 |
| 3 | 4 |

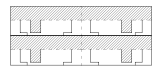
Four sites 12.5m x 30m



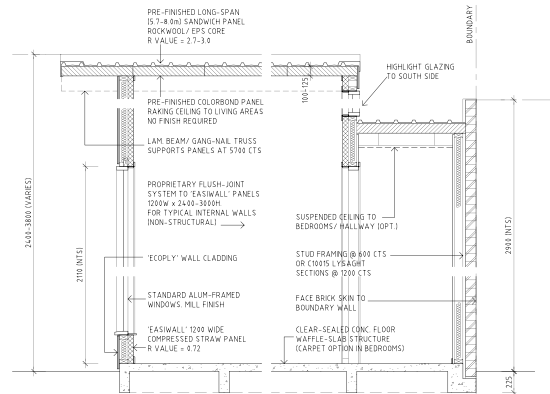
Linear bands of building and landscape



Car access from street to building



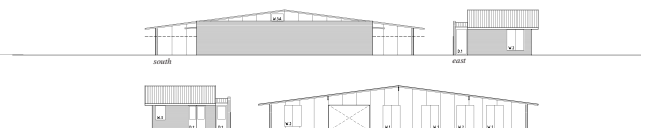
Carport room joins inside and outside



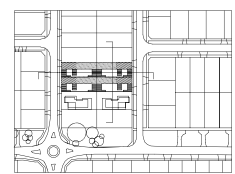
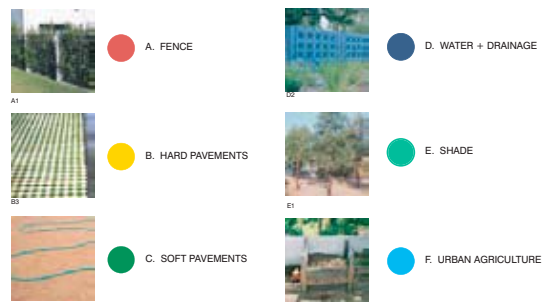
DETAIL SECTION 1:25

MATERIALS AND CONSTRUCTION

Our proposed construction uses simple prefabricated systems combined with standard domestic building practice to achieve greater speed of construction, cost savings, energy efficiency and internal flexibility. Pre-finished long span roof panels allow for more generous sloping ceilings to living spaces and are assembled easily in minimum time. They combine roof sheeting, roof structure, insulation and ceiling finish in one element. Internal walls are hence non-structural, and are proposed as environmentally friendly compressed wheat straw panels with high impact resistance and acoustic-thermal insulation qualities. Floors are clear-sealed concrete for flexibility of use and passive thermal gain. Walls are a combination of face brick veneer and plywood cladding. (Costing based on Panel Tech 'Thermaspan' roofing system)



ELEVATIONS 1:200



SITE PLAN 1:2000