

## Coreten and Polished Concrete



Energy efficient design, a floor plan to reflect the client's lifestyle, reduction of waste, attention to detail in every part of the construction and a flaw free finish were all part of our approach to this outstanding home. The wall fabric construction used two different mediums on the upper and lower floors designed for economy of construction as well as an aesthetic effect. Solar passive design has maximised comfort levels in the House, preventing the levels of Summer heat gain and Winter Heat loss that many Victorian homes experience. Cross ventilation was also considered to reduce the requirement for air conditioning.

Our Clients for this home are medical practitioners in Wangaratta. They have been part of a successful practice there for many years and have raised a large family whilst juggling the demanding task of general practice in a regional centre. Living in the North East has enabled them to enjoy an active outdoor live and make the most of the natural beauty of the landscape here.

Approaching retirement, they had resolved to downsize from their two storey suburban home they had raised their large family in and build a new home that suits their lifestyle now. They found the perfect site on the Northern side of town in a relatively under developed area that offered a connection to our natural environment but remained central to the city and easily accessible.

The house is sited on a large block in an area of Wangaratta that has always been flood prone. Located near the junction of the Ovens and King Rivers, this was once low-lying farmland that was regularly impacted by rising river levels. Now protected by a levee bank established in the 1990s, there is much to like about an area so close to remnant River Gum forest but in walking distance of the CBD.

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The potential for floodwaters to one day invade the property was something in the front of the Clients mind as they approached local building design firm Freedom of Design to create something special for the next stage of their lives in Wangaratta. Building Designer Rob Rowland has certainly proved up to the task.

We were invited to have input during the design stage and consulted closely with the designer Rob Rowland and our Clients the painstaking construction detail came together. We were involved in the specification of the structure and fabric of the building and supplied multiple costing options as we tailored the project cost to the Clients requirements.

- The house needed to address the following important needs;
- Expansive open plan living that took advantage of the rural aspect
- An elevated floor plan that took potential flooding into account
- Siting of the building for thermal performance
- Access to high quality views of the Riverine environment
- Open plan living in a home primarily occupied by two people
- Outdoor living areas that could be used year round
- Robust construction that could endure a flood
- High level of feature internally as well as externally
- A generous master bedroom suite
- Extensive wardrobe and storage spaces
- Energy Efficiency for living comfort
- Low maintenance materials
- Highly secure and private

All of these needs had to be met in a seamless manner that meant the rooms had a natural flow, the operating systems of the house were located discreetly and the external tones of the façade of the house fitted well into the landscape.

The final result is a testament to the effective planning the Clients and Rob Rowlands put into the design, drawing out the client's needs, addressing Planning and Building regulation and incorporating design features that give the house a spectacular presence that is not overbearing in the landscape.



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There is a significant amount of feature detail internally and externally that has been successfully executed to a very high standard. The Clients and Building Designer had a very clear vision of the external style and interior decoration of the House. We worked with them to fashion a blend of specific features against a backdrop of highly finished surfaces.

- Two storey in construction with a feature brick skin of black blockwork to the lower floor and Coreten steel, Spotted Gum and Colorbond corrugated iron to the Upper cladding, the buildings colour tones fit nicely into the surrounding landscape, understating the drama of it's construction.
- A structural skeleton of a steel portal frame creates the dramatic design of the building allowing the axis of the top floor to be different to the floor below
- Large Balconies to the North and South are created with cantilevered steel beams supporting polished concrete floors.
- Double Glazed Rylock AA series windows featuring substantial aluminium frames that blend commercial aesthetics and domestic functionality,
- A formal entry accessed by a curving path up an earth mound. From there a wide entry bridge made of steel beams, redgum sleepers, stainless steel balustrade and spotted gum handrails lead to a covered Entry with a custom made spotted gum door.
- Extensive Exposed Aggregate paving that flows around the House perimeter
- Walk in Robe in the Master Bedroom featuring ceiling storage and roof access hatch
- En suite, first floor Bathroom and a Guest toilet, all fitted with high quality fittings. Ceiling height tiles in the En suite and Bathroom
- Polished concrete floors upstairs and downstairs for functionality and style
- Extensive custom made Cabinetry including Victorian Ash timber and marble benchtops
- Spotted Gum feature timbers externally as Pergola rafters, Steel column infills and balcony and wall screens
- Ritek roof sheeting system for thermal efficiency and building economy. Hoop pine ceiling sheets accentuate the colour and form of the corrugated iron ceiling form
- Core filled cavity block work, insulated in the cavity with different colour choices internally and externally



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- Radiata Pine Ceiling to the first floor conceals the Bondek floor sheets and steel floor beams and provides a cavity for insulation
- A winding timber staircase in Victorian Ash, custom built largely on site, is an elegant feature that sits nicely against the concrete floors and ties in to the Kitchen cabinetry
- Square set window returns give an uncluttered and modern feel to the internal linings
- Kiln dried hardwood internal door jambs
- Master Bedroom division using custom joinery featuring Spotted gum timber
- Mitsubishi reverse cycle air conditioners that serve the Guest bedroom, Multipurpose room, Upstairs Living area and Master Bedroom.

The lower storey of the House, intended to accommodate visiting family and friends, is designed to be largely isolated from day to day living to reduce energy demand. The building has a 6.2 Star thermal performance rating which is better than what might be expected in a two storey home of this scale like this one– nominally a total energy consumption of 183 MJ/m<sup>2</sup>, with a cooling load component of only 19 MJ/m<sup>2</sup>. This is a remarkable achievement in a house with such a unique Architectural aspect built on multiple levels.

The siting of the building, within the constraints of a flood overlay, has provided for year round outdoor living space without compromising the solar passive principles applied. The upper floor Balconies take great advantage of the views of the rural aspect to the South and North West providing the calmness of rural living.

Windows capture specific features the Client valued most including the Redgum forest, the open farmlands and a view of their own block from the upper floor. Shade Awnings give the building distinctive feature whilst mitigating the effect of sunlight through tall feature windows.

The custom design of the floor plan is very much designed around the lifestyle of the Owners. The floor plan is purposefully laid out to suit both the day to day life of the Clients as well as providing for entertaining their large family and many local friends. There is easy access from the Garage to the House and a secure shed for storage built in a complementary style for storage and garden equipment.

The design focussed on providing a home that could transform depending on the occupancy. It comfortably provides for two people living on their own or when needed can accommodate family coming to stay as well as friends, providing privacy to each. The stimulating shape of the building and aspect of the block provide for a variety of views from each room.

- Custom designed to make the most of the Riverine landscape views and Solar orientation, a great deal of effort was made to set out the building to make best use of the site. Locating the House to minimise overlooking and over shadowing of adjoining properties, now and in the future was deliberate focus. We worked hard to site the building precisely to the site plan dimensions
- Steel portal frame, hand framed termite resistant wall structures, core filled blockwork and polished concrete floors all provide for a robust and enduring structure. Coreten and Colorbond iron claddings were used over a sealed and insulated frame. Proctorwrap breather membrane was used in lieu of traditional plastic wrap. All membranes were sealed at all edges, joints taped with proprietary tape.
- The Double glazed aluminium windows fitted were Rylock AA series. Each AA Series window features an inline Kiln dried hardwood reveal that improves the energy efficiency, as the aluminium area to the interior is minimised. All were sealed internally using expanding foam to reduce air movement.



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- Care was taken in every aspect of the finished external appearance;
  - Downpipes in heavy steel galvanised piping to give scale and weight to their presence
  - Flashings devised to prevent Coreten sheets staining the polished concrete of the North balcony
  - Discreet fixing of Spotted gum screening timbers
  - Concealed supports for the steel window shades, flashed to prevent water ingress
  - Paving in a particular exposed aggregate mix,
  - Rafter fixings of the Spotted gum over the pergolas concealed for a clean effect
- The Balcony screen to the external bath of the Master bedroom suite is raised to give privacy from passers by on the Levee walking trail below. Spotted gum battens are spaced for privacy and architectural effect.
- Fixings of the Spotted gum beams internally in the steel columns were considered and discreet, giving maximum effect to this beautiful timber.
- Custom made Victorian Ash Stair and Handrails which are aesthetically appealing, durable and manufactured to the highest standard. The use of timber through the joinery in the House is thoughtful connection to the riverine forest outside.
- Sizing and placement of Split system air conditioners done in conjunction with the Clients to provide the best aesthetic effect while providing a very quick reaction time, cooling an area within a short amount of time, using little energy. Energy use is offset by the Photo Voltaic panels providing energy into the Grid.
- The majority of the mechanical services are discreetly placed out of sight from general view.

