

Now for the HOME!!

Building a pottery studio as stage one allowed these owner builders to learn and make subtle alterations to the main house design.

BY IAN E. REDFERN

PHOTOGRAPHS BY COLIN PROBST OF MAKING FACES ARE INDICATED BY CP-MF

This is the story of how sensible resourcing and sustainable building, using ones own effort, created a pottery studio and temporary home for two extremely talented pottery artisans – Greg Barron and Jin Ling.

For more than a decade Greg had expressed a strong desire to build his own home and pottery studios, from which he could retail his internationally renowned pottery, and to build them of earth. Greg had admired Glenbervie as a peaceful place and felt it a natural location to site a home-based pottery studio, as he had spent many years driving through this area on his way to and from the coast.

So on hearing a 0.96 ha block, with a stand of mature trees and a stream, was for sale he placed an option to buy on it and set about the sale of the home and studios in town. Greg and Jin Ling engaged Adobe South to undertake the design and consenting of a pottery studio and future home for this site.

Greg then set about making a stockpile of pottery to tide them over the non-production time whilst the buildings were underway. This strategy proved to be a blessing as he could be involved full time in the building of the pottery as stage one, while Jin Ling shared her time between helping on site and continuing with her sculpture commissions.

Staged approach

The plan of building the pottery as stage one, using part of it as home for a couple of years, has enabled the family to feel the uniqueness of their block and make minor alterations to the approved design of the home.

Fortunately for this pair of owner builders, who planned both buildings to skirt along the edges of the covenanted bush (a stand of protected mature trees), several large trees had to be removed. By carefully felling these trees, and using a portable sawmill, most of the roof structure timbers were obtained.

Examples of this efficiency are seen in the 300mm square support post that was cut from the trunk of a totara, and the 450x300mm cross beam from a taraire. Of the remaining timbers most were recovered from the two large 'Grand-daddy' radiata pine trees on the site – this timber has proven to be most stable as these mature trees were almost all resinous, dense, pale yellow heartwoods. Maybe there is a lesson here for the building and forestry industries? The notable exceptions to this were the purchase of the large ridge beams, as the consulting engineers had specified a high strength treated timber be used (to meet the large loads imposed by the heavy terracotta tile roof and ensure a fifty plus years durability), and the saligna (*Eucalyptus saligna*) lintels over the doorways.

By chemically preserving the timbers, longevity is ensured, as the building will be a pottery with lots of damp clays and accompanying higher humidity levels (quite different from a house where timber moisture levels are under 12%).

One of the design criteria for the studio was to create generously sized working spaces for every stage of the process – from the raw clay to finished pieces. And the underlying theme was to achieve this elegance with a simple footprint, and to allow the materials and workmanship to speak for the building. Greg has certainly mastered this as the studio receives rave reviews both in person and in published articles.

The rafters have been kept close together to limit the sag in the tile battens (seen often on older houses) that support eleven tonnes of beautiful Malaysian terracotta roof tiles.



Large portable mill working on a huge 'grand-daddy' pine (65+ yrs old)



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The skillion roof was made by nailing pre-painted strandboard sheets followed by sarking on top of the exposed rafters, and then fixing down the tile battens over heavy bituminous breather paper. This provides substantial diaphragm bracing to meet the earthquake requirements; yes, Northland is in a low earthquake zone and slight tremors have been recorded!

'Smartform' system

For the walls Greg and Jin Ling chose the *Smartform* system, using poured cement stabilised earth, as a time and labour efficient method. This comprises a light weight system of plywood side panels and specially formed dividers, assembled in-situ, into which poured earth is placed to form large heavy blocks (300mm high x 300mm thick x 600mm long), somewhat like the sandstone blocks our pioneers used a hundred or so years ago.

The use of local quarry overburden 'earths' to build the walls and floors of this studio was a natural extension for potters. The gritty soils and cement (typically 9:1) are mixed in a concrete mixer to a thick pourable consistency (like sticky stew) then bucketed into the boxes and allowed to set overnight before the shuttering is unbolted and set up for the next level the following morning.

One of the many advantages of this system is the inclusion of the vertical steel reinforcing bars, which not only hold the roof down but also significantly add to the earthquake resistance of the building. The power boxes and electrical services conduits are usually also cast in as the walls grow.

An advantage of using a wet mix (adobe) in our sub tropical climate, over the more well known rammed earth technique, is avoiding the trauma of keeping the pile of soil dry. Just try ramming soils that are wet or even a little too damp - disaster! Indeed it has been shown that adobe building is most



Jin Ling setting up and filling the Smartform system for the walling.

comfortable for man, and makes for stronger earth walls when undertaken during the cooler months (April through September), as the cement stabiliser (approximately 10%) can fully absorb the water of reaction and the adobe will not be baked by the drying wind and sun.

One of the downsides of moving into a 'green' earth home, that has not yet fully dried, is its slow drying out - the place felt chilly and damp, even the toilet paper was limp and soft! So Greg built in the firebox of a wood fire with bricks and clays, which they kept alight 24/7 for more than three months (it was also winter) before the place had dried out to a comfortable steady state. It now has a wonderful even temperature, being cool in summer and warm in winter.

Splendid studio

Greg chose pre-finished aluminium joinery for function, cost and longevity, and these fitted snugly into the recesses that were cast in as the walls were built. Greg says 'By taking time to get the door boxes (an essential part of the *Smartform* system) set vertical in each axis, the joinery units had no unsightly side gap to fill or cover with beading - this attention to detail is very important to us, in both a visual sense but also functionally!'

In keeping with the ethos of sustainability and harmonious working spaces, Greg poured his cement stabilised earth tile floor using a similar mix to the walls. Likewise the verandah paving. These floors are not dead flat, as a concrete slab would be, but have a life that complements the balance of the studios and gallery - with the added bonus that the earth floor is easy on the feet.

A few facts...

LOCATION

Whangarei, New Zealand

MATERIALS

Poured earth
Timber

CRITERIA

Built of earth
Rapid construction
Large working spaces

FEATURES

Poured earth floors
Site felled timbers

SPECIALIST TOOLS

Smartform shuttering system

Perhaps Colin (the photographer) summed it up best, 'it has a sense of calm... and of always being here.'

PS: The site for the home has been prepared, and in the autumn and winter Greg will make and stockpile adobes for the home. We wish you well - enjoy! ■

Greg Barron is an internationally renowned ceramic artist and potter, who makes wonderful pieces formed on the wheel. Jin Ling, a ceramic sculptress, has an international following for her large garden pieces. Glenbervie Pottery, 294 Ngunguru Road, Glenbervie NZ; 09 437 5359.

Ian E. Redfern is the principal of Adobe South, an architectural design studio specializing in: sustainable eco-healthy design, mainly residences, in straw bale and earth construction; obtaining the building consent and all approvals needed as well as offering a mentoring service to their owner builder clients. See Directory of Services under New Zealand for further details.



• New Zealand native timbers

- Tarairae (*Beilschmiedia tarairae*). A native hardwood of medium durability, out of contact with the ground. Accepts preservatives well. It is also very difficult to nail.

- Totara (*Podocarpus totara*). A native hardwood renowned for the durability of its mature heartwood. The logging and milling of native timbers is closely regulated. Obtain details from the Ministry of Agriculture and Forestry, +64 4 819 0668, www.maf.govt.nz.