

Tanglewood

18 Rangitoto View Road
Cockle Bay

OPEN 11am-4pm
Saturday 29th, September 2018

BY EQUINOX DESIGN LTD. & BIO BUILD
Floor Area: 197m² total living area plus 115m²
carport & decking Section Size: 966 m²



DESIGN

Key Features

- Biophilic design principles workshopped to ensure Tanglewood's connection to Nature.
- TetraMap model used to facilitate integrative, collaborative design and build. (TetraMap is a framework for transformational teamwork and leadership: see www.tetramap.com).
- Timber, with minimal steel & concrete for low embodied energy.
- NZ pine Abodo cladding* with silicon based, non-toxic preservative.
- Walls with 185mm thick Mammoth insulation** made from recycled plastic bottles.
- Thermally broken Aluminium joinery with Low E double glazing.
- 9 tiltable solar panels and 18 fixed with 13.5kWh Tesla battery.
- Recycled Rimu features from original home.

* DECLARE products: see www.living-future.org/declare/

Tanglewood owners move in Oct 2018! It's been over 2 years since signing up to "Living-Building" Petals Certification and the results to date are stunning. The house is beautiful, yes, but the process to design and build is even more so because of the teams that have contributed. The mantra for the journey: Nature does not waste.

Commitments by owners, builders, contractors and suppliers to reduce waste, reuse and recycle, was instrumental in creating Tanglewood. Waste was explored in all its forms: resources; energy; communication and stress.

Tanglewood aims to minimise embodied energy and generate enough energy for local transport as well as all household use. Highly efficient appliances, massive insulation to minimise heating/cooling, plus enough solar panels to generate 120% of the household electricity



Under Construction



environmentally conscious architecture





requirements should enable Tanglewood to be a net contributor to the electricity grid as well as charge a 13.4kWh Tesla battery and an Electric Vehicle.

To reduce embodied energy and minimise the use of materials made by burning coal:

- Laminated timber structural beams and portals instead of steel.
- Timber floor on timber post foundations instead of concrete slab.
- Acrylic instead of glass in most of the smaller windows.

To reduce wasted heat, exterior walls have 3 layers of insulation 185mm thick made with fibres from recycled plastic bottles, Red List Free and 100% recyclable. Hot water is via a thermal store containing less than 30 litres of potable water, but 300 litres of closed system heat storage kept at around 45-50°C.

Most solar panels are 5° and facing due north flat to the roof but one bank of 9 panels on the deck balustrade can be adjusted seasonally between 30-60°. The top of the deck balustrade is 50cm above floor level lowering the walkway around the outer edge, allowing a clear view when seated.



What is the SUPERHOME movement?

SUPERHOME MOVEMENT is creating awareness for homeowners, builders and designers, triggering behavioural change in decision making on designing and building superior homes. The current building code describes the lowest possible building standards that are legally permitted across New Zealand. BRANZ research shows that building code is universally mistakenly used as the target quality standard rather than a legal minimum. Code minimum does not present satisfactory levels of comfort, health and wellbeing, nor efficiency in regulating heat and energy consumption.

SUPERHOME MOVEMENT provides open source sharing of new design ideas, technologies and building techniques; connecting leading experts in the industry with each other and the wider community. Collaborating to provide better value for money, superior designed and resiliently built, environmentally sound homes that are more energy efficient, healthier, warmer & dryer.

We can easily build low energy or energy positive buildings that are much more sustainable by changing from mainstream building methods and techniques. We will be financially better off, healthier and happier living in a **SUPERHOME**. It is a myth that it is too expensive.

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