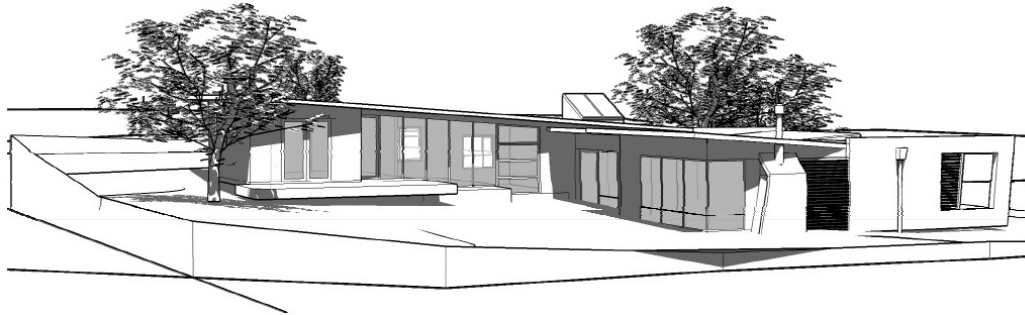


# Right House Project Profile



## SPACE ARCHITECTURE STUDIO – FERNDALE SHOWHOME - WAIKANAЕ



### The Project

Ferndale is an environmentally responsible residential development set on 15 hectares of rolling land between Waikanae town centre and the coastline. SPACE Architecture Studio is proud to have been appointed as one of the approved architectural partners in this sustainable development. We were also on the expert panel involved in the development of the *Ferndale Design Guide* for the design of all homes to be built in the subdivision.

Ferndale is the first development in New Zealand to set such high criteria for building energy efficient, high performance homes.

The design of the new home has been carefully planned by SPACE Architecture Studio and Right House to meet the sustainability objectives of the development.

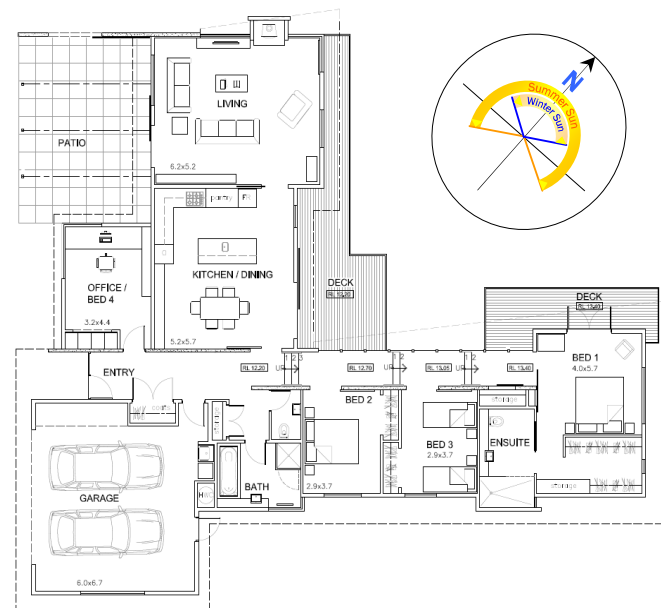
The result is a striking home which will be very efficient to maintain at a comfortable temperature.

The plan of the house is an 'L' shape orientated to the north to allow sun to penetrate the building during the middle of the day and to provide shading during summer months. The south-eastern area of the site has been utilised for service areas such as washing line, storage and organic recycling.

The floor plan incorporates flexibility for occupants and their ever-changing needs. It includes 3 bedrooms plus an adaptable fourth bedroom. The fourth bedroom is located in a position which can work equally well as a guest bedroom or office space.

The kitchen, dining and living spaces open onto a protected north facing outdoor living area maximising opportunities for natural light and a connection with the outdoors. A gallery space serves as the connection between living and bedroom spaces. It is a well lit main circulation spine which also provides an intermediate space for the collection of direct sunlight and solar energy for passive heating. The number of bathrooms has been kept to a minimum in order to conserve both costs and water use.

Collaboration with Right House on the design of energy efficient solutions for water heating, space heating and energy efficiency means that the house maximises opportunities for keeping energy consumption low.



### The Energy and other Sustainability Features

#### Solar Gains

Large glazed areas to the north allow sunlight penetration into the building to maximise opportunities for passive solar gain heating and natural light.

## Insulation

High insulation values to timber framed walls, floor and ceilings manage interior temperature and minimise the impact of external temperature variations. Argon filled double glazing increases insulation values of glazed areas and maximises heat retention.

### Thermal Mass

The wall along the gallery works as a 'solar wall' collecting energy from direct sunlight. Floors to the gallery, kitchen and dining areas are also exposed polished concrete and are insulated to act as solar energy storage.

### Heating Systems

An efficient solid fuel wood burner to the main living area has a heat transfer duct to the bedrooms. Electric radiant ceiling panels to the main bedroom spaces provide a responsive energy efficient solution to heating.

### Water Heating

A Chromagen Solar water heating system designed to save approximately 70% of the hot water energy.

### Other Energy and Comfort Features

The house features several other energy features:

- Rainwater harvesting (20,000ltr in-ground storage tank).
- Grey water harvesting. Grey water is reticulated to site for irrigation. Fruit trees are planted to the south-eastern area of the site and are irrigated from this supply.
- Water Conservation through the use of low volume toilet cisterns and low flow shower heads. The toilet and laundry fixtures are supplied from the rainwater storage tank.

The home achieves a Green Home Scheme rating of 'Very Good' and a Home Energy HERS rating of 6 stars.

	Insulation	R-value	NZ Building Code
Floor	50mm extruded polystyrene to isolated thermal storage exposed slab and to remaining areas.	R-3.0	R-1.3
Walls	Stud and staggered batten wall framing. R-2.8 batts® to wall frame + R-1.3 blanket to studs.	R-3.5	R-1.9
Roof	R-5.0 batts®	R-4.5	R-2.9
Windows	Double glazing with argon gas infill. Fixed glazing in timber frame to glazed Gallery wall and large sliding doors, aluminium frame to remainder.	R-0.28/ R-0.39	R-0.26

## The Result

The resulting house design is a holistic solution to the design objectives of the Ferndale development, the site conditions, and the desire to balance healthy design principles with responsible environmental choices. The solution has created a modern, sophisticated and appropriate aesthetic which considers the natural and cultural character of the site and achieves outstanding comfort and lifestyle performance, all built to a firm budget.

The energy consumption of this home has been assessed by Right House as about 8400kWh/year, less than 50% of the average New Zealand home, reducing power bills and greenhouse gas emissions by almost 5t of CO<sub>2</sub> every year.

## The Designer: SPACE Architecture Studio Ltd.

SPACE Architecture Studio is a small team of architects, designers and interior designers. Our projects are featured throughout New Zealand, although focused around the lower North Island. Our main office is located in Mana, Paremata and we have a small home office in Waikanae on the Kapiti Coast ([www.spacearchitecture.co.nz](http://www.spacearchitecture.co.nz)).



SPACE Architecture Studio have people with a broad range of skills and experience to offer a full range of services. We are able to provide expertise in architectural design, interior design, and building contract administration.

Our projects have a focus on quality and suitability to the owners' requirements and their site. We design New Zealand buildings for New Zealand conditions, with principles of passive solar design and good accessibility for the lifetime of the occupants. We aim to create buildings that are unique, honest and appropriate for their setting.

To get a Right House Solution for your own home simply contact Right House at 0800 744 484 or [www.righthouse.co.nz](http://www.righthouse.co.nz) or contact one of our design partner companies.

