

# Beyond Design Guidelines

## General Summary



# A general summary of Beyond's design guidelines.

As you're already well aware, Beyond is a completely unique development. In fact, it is more like a sanctuary than a housing development. Surrounded by hectares of open space, landscaping, parks and wetlands, you'll actually have to look very hard to find the homes!

Inside is a handy summary of the main design guidelines that need to be adhered to in order to maintain the uniqueness of this stunning development.

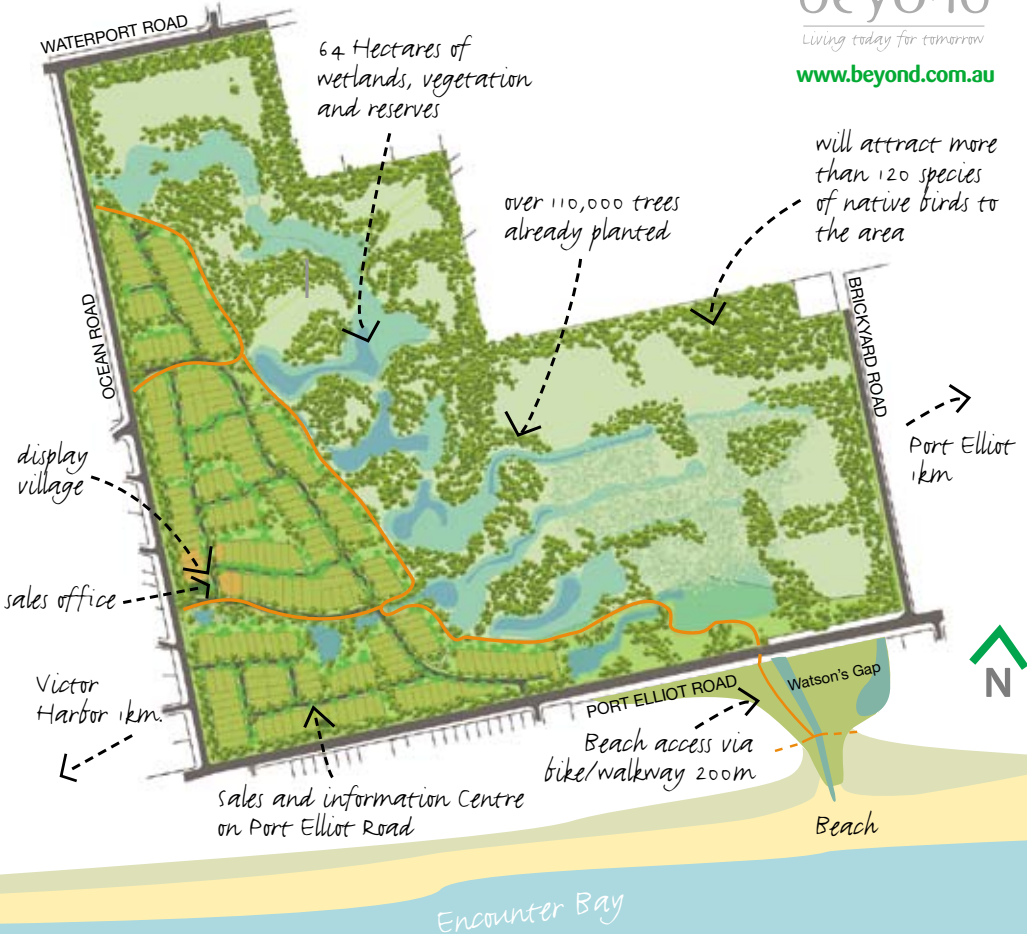
These guidelines have been specifically designed to assist you in your quest to build the ultimate sustainable lifestyle home.



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# A Sustainable Sanctuary.

Beyond Today's design strategies are based on ecologically sustainable principles. There are simple, practical ways to make buildings energy efficient, requiring little or no artificial heating or cooling assistance. Sustainability guidelines explain how to provide healthy, cooling natural ventilation to all rooms; how to conserve water and power, and choices for the healthiest, most durable materials. Reducing our impact on the environment whilst saving significant finances in ongoing household energy costs.

## Orientation.

Orientation is one of the most important aspects of making your home energy-efficient, light filled, and naturally comfortable through every season. Living rooms, kitchen/dining/ family rooms and studies should be oriented to the north and facing open space in order to have access to daylight throughout the year.

## Building Envelopes.

At Beyond, we have designed a specific building envelope plan that is individual for each site. This envelope protects each homeowner from ever being overshadowed by a neighbour and ensures at least one view of parks; wetlands or ocean will remain unobstructed for your enjoyment.

Things like...

- Siting and orientation.
- Building setbacks, relative to building heights.
- Location of private open space/courtyards.
- Sections of sites in which ground floor living areas will be sited.
- Garage/carport locations.
- Driveway locations and widths.
- Special fencing requirements.
- Location of upper level.

All helping protect you and your neighbours lifestyle and living environment.

## Landscaping.

The coastal, botanical theme of Beyond Today calls for predominant use of indigenous species in landscaping, with encouragement to select low-water- demand plants to assist water conservation. Deciduous and evergreen trees carefully selected and positioned, can also offer benefits of summer shade and winter solar gain.



# Glazing.

Windows (and doors) provide the important benefits of access to light, heat, air and views. Maximising benefit depends on orientation, shading, size, quality, and the area of glass relative to both the floor area and solid wall area. Walls that do not have exposure to winter sun should have less glazing.

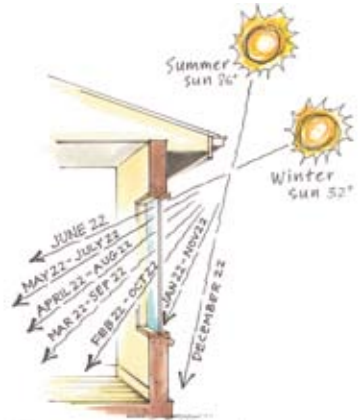
Requirements:

- Use double glazing and/or glazing to a minimum “R” value of .25 to all but service areas (bathroom, laundry,etc)

# Shading of glazing.

Internal comfort during warmer months requires that windows facing north, East and West are effectively shaded.

The diagram opposite, explains how glass is to be properly shaded to protect internal living spaces from hot summer solar radiation, while enabling maximum solar gain in winter months.

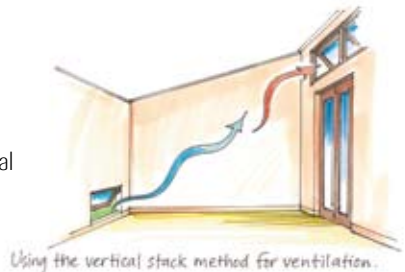


Midday Winter and Summer sun angles.

# Ventilation.

Good air movement through internal living spaces during summer will allow the purging of pent up heat. Cross-flow ventilation provides healthy internal conditions and natural cooling from summer breezes.

Zoning of spaces (by incorporating doors between internal ‘zones’) provides for maximum winter warmth through division of living spaces, which reduces the areas to be heated. If external and internal walls are well insulated, adequate sealing will lessen internal temperature variation.



Using the vertical stack method for ventilation.

Requirements:

- Provide significant cross-flow ventilation throughout the dwelling.
- Provide ventilation from ceiling level upwards through the roof to the outside, and/or through high and low level windows.



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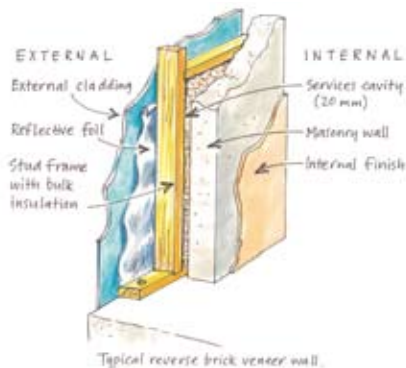
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## Thermal Mass.

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The advantages of internal “thermal mass”:

- Solid masonry walls have the capacity to absorb and retain heat.
- They have “thermal mass”. In summer this capability enables the walls to absorb heat from rooms, maintaining lower temperatures during the day.
- At night, the heat that has been absorbed by the thermal mass material during daytime can be released into the cool night air through ventilation. In winter heat generated inside (from the sun or other heat sources) is stored and released to internal spaces in the evening, reducing the need for extensive ongoing artificial heating.
- It is not a requirement but we do recommend the Reverse Brick Veneer walling system as it will provide the most comfortable temperatures and living environment without the use of artificial heating and cooling.



## Insulation.

Insulation will reduce the impact of high levels of solar radiation and other heat gain and heat loss. It's one of the simplest and most effective methods of saving energy and ongoing costs.

Requirements:

- External timber wall frames are to contain bulk insulation to a minimum value of R2.5.
- All roof spaces are to be insulated to an R4 rating in addition to the fitting of foil reflective sheets.

## Water Heating.

More than 30% of energy used in average households is devoted to the provision of hot water.

Requirements:

- The highest efficiency solar hot water systems are to be used.
- Where the distance between the hot water service and an outlet is greater than 15m, install devices that reduce water loss from delays on hot water supply to outlets caused by the distance of the outlet from the HWS

# Renewable Energy.

The installation of any renewable energy supply system, such as photovoltaic (PV) panels, will provide electricity that is free of greenhouse gas emissions and ongoing cost.

Requirements:

- Generate energy from “renewable” sources using systems with a minimum capacity of 1.0 Kw.
- Allowance is to be made for sufficient and appropriately orientated roof area for the location of solar collection devices.

# Water.

Potable (mains Supplied) water demand reduction. Collecting and using rainwater and using it for irrigation, in hot water systems and toilet flushing is achievable for all homes. Efficient appliances and fittings (e.g. taps) and “low water use landscape” design will further minimise water consumption.

Requirements:

- Collect rainwater from a minimum 80% of the roof area and store in minimum 10,000 litre tank(s), and use throughout the home.
- Provide minimum AAAA dual flush toilets and AAA showerheads, and appliances, including dishwashers and washing machines where installed.

# Lighting and Appliances.

Provision for natural lighting needs to be supported by well placed, energy- efficient artificial lighting. Consult a lighting specialist to obtain current information about longest life lowest running cost lights. Some halogen type lighting is very inefficient and to be avoided.

Requirements:

- Install only energy efficient lighting in every room. Fittings incorporating compact fluorescent, T5 fluorescent and LED lamps, are suitable.

Recommendation:

- Highest efficiency appliances, whether fitted or loose, should be selected.
- All appliances are to be purchased at the highest possible level of energy efficiency.

# Space Cooling and Heating.

The need for mechanical heating and cooling should be greatly minimised by complying with the totality of Beyond Today guideline requirements. However, if any mechanical heating or cooling systems are installed, they should be selected on the basis of highest available level of energy efficiency.

## Requirements

- Ceiling fans fitted in all habitable rooms, and such habitable rooms are to have a minimum ceiling height of 2.7m above floor level for a minimum of 2/3 of that room.
- If “Mechanical” heating and cooling systems are installed they should target only critical living spaces, which will be zoned to reduce demand and therefore maximise efficiency, and to be selected from the heating and cooling selections located in our detailed guidelines document.

# Chemical Treatment.

Pest exclusion (particularly termites) is required and will be mechanical or non-toxic. Toxicity from chemicals used in the construction process needs to be minimised, and materials in which toxicity levels are extremely high must be completely avoided.

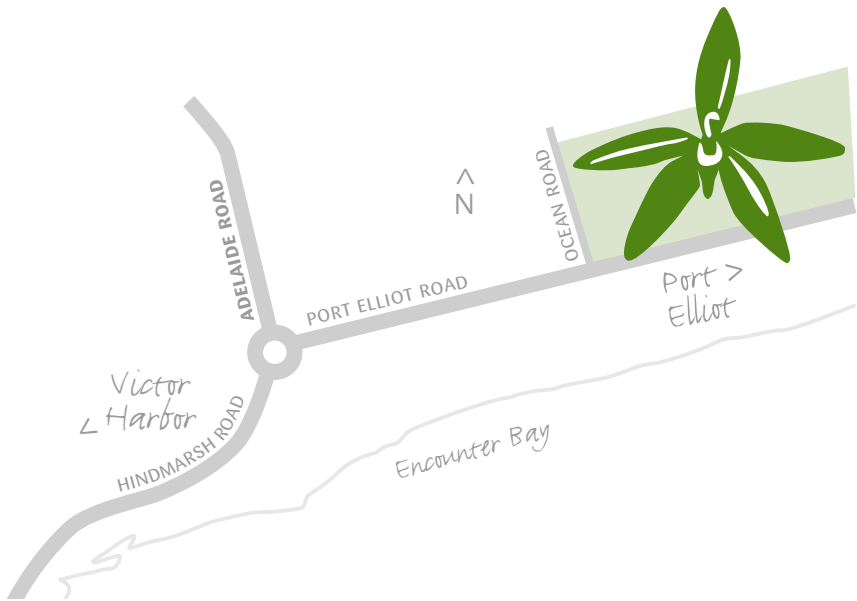
## Low off-gassing coatings and materials

Building interiors finished with materials and paints with low pollution emitting levels support healthier internal household conditions. Emissions are measured in grams of Volatile Organic Compounds (VOC) per litre finish or material.

# Conclusion.

We hope this brief summary has assisted you in making some preliminary decisions on building your new home. Given the effects of climate change and consequent ever increasing energy costs, purchasers at Beyond have recognized the considerable potential for capital growth in investing in a world class environmentally sustainable development. Beyond offers the perfect balance between sustainability, life and luxury.

For a full in-depth look at all of the design guidelines or should you have any questions feel free to contact us (see back of brochure) or visit our sales and information office which is open Wednesdays, Saturdays, Sundays and public holidays from 12pm to 5pm or call and make an appointment.



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