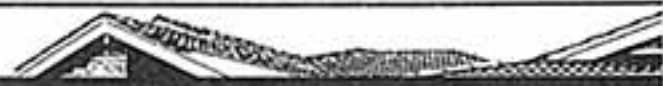
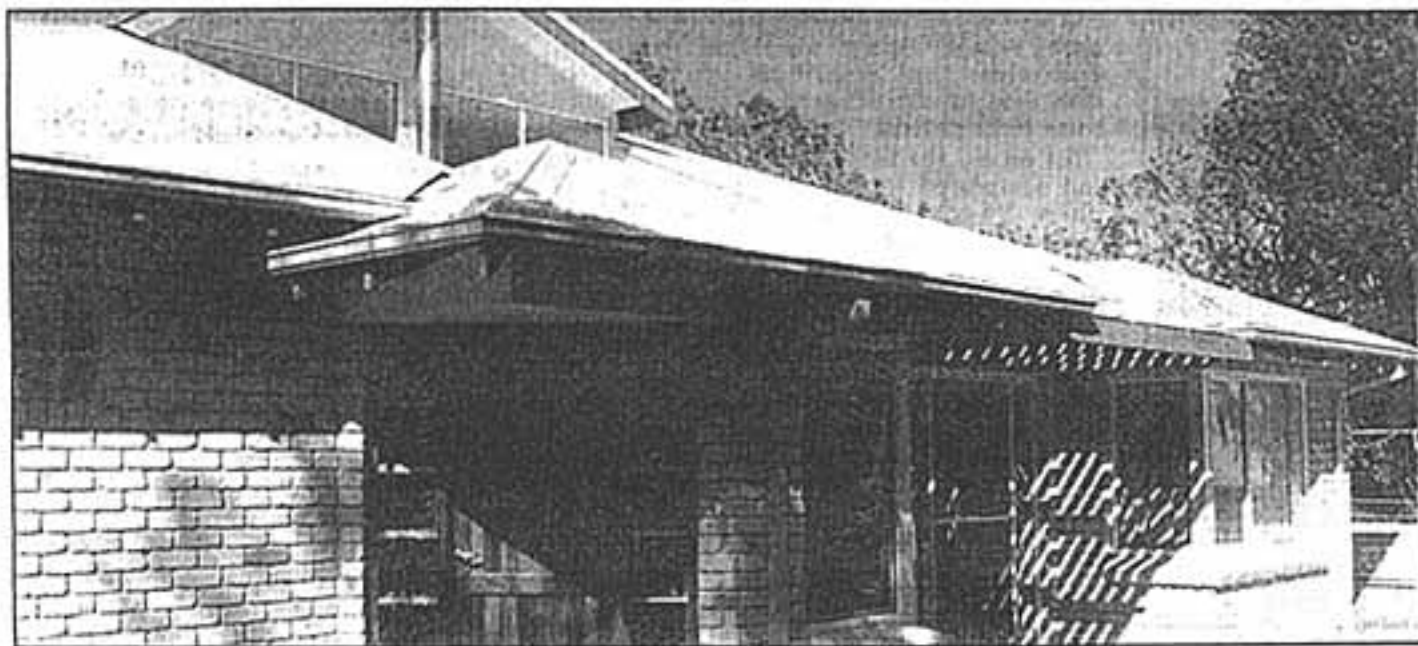


New Homes Liftout



Fine passive solar design

‘The result is an energy efficient design that cuts comfort costs for heating and cooling by more than half.’



The house is designed as a holiday retreat and eventual retirement home.

THE Dunsborough site was magnificent with the beach just across the road and protective peppermint trees framing a panoramic outlook over Geographe Bay.

The big problem was that this outlook was to the south and south-east and the brief for the new home was for a passive solar design.

Architect Garry Baverstock has come up with a solution that allows the owners to live with the southerly view from all the main living spaces and still maximise the winter sunshine from the north. The result is an energy efficient design that cuts comfort costs for heating and cooling by more than half.

Apart from the obvious economic benefits the residence has a light and bright, open feel indoors and relates perfectly to the outdoor living and that 180deg bay view. It also has the look of belonging to the area with its natural materials such as earthy tones in clay brick and a beige corrugated roof, in a traditional Australian style.

The passive solar benefits have been gained partly from the north facing windows but more importantly from the extensive clerestory glazing in the roof. The latter allows the low-angle, winter sunshine to penetrate living areas on the south side.

The floors and walls act as thermal banks, absorbing the heat by day and radiating it back into the rooms for hours into the night.

The obvious heat loss with the windows to the south has been avoided with double glazing. As a

result there was no restriction on the glass area to make the most of the oceanfront environment.

The clients specifically asked for timber finishes where possible to maintain the overall natural look. Floors have a timber parquetry and cupboards have a similar clear finish, making the most of the most of the warm tones of the wood grains.

Another difficult task for the architect was in meeting the request for a wide sun deck in timber on the south side facing the sea. By carefully angling external walls, the winter sun gets round the south-east corner and on to the deck from about 7.30 am to almost 11 am.

This deck seems to float across natural contours, wrapping itself round carefully-retained trees in the process. Balustrading was not needed with the deck raised only about 350mm and this opened up the view for those seated outdoors.

The brief from the owners was for a holiday retreat and eventual retirement home. They saw the home as an antidote to their busy professional careers, an escape that they could always look forward to.

They wanted bed-study units with outlooks to the gardens. This made a lot of sense in putting the bedroom suites to the north.

Living areas were open planned for free-flowing spaces that related to the bay view. The trick in the design was to maximise the solar gains in winter, consistent with the requirements of living with this view.

The architect was no so overly concerned with the summer aspects because of the prevailing summer sea breeze in the area and the moderate climate at that time. Still there are no windows exposed to the hot summer sun.

The house is not open for inspection but the architect is prepared to discuss aspects of the design. The concept proves that just about any site can be maximised for passive solar benefits.

The retreat has been built on a gently-sloping and elevated block. It has an obvious main entry in the north-east corner, the hall being linked to all main zones and to the double garage.

The kitchen has its own sea outlook to the south-east while another window relates to gardens on the east side and gets the early morning sunshine. Living spaces are integrated with the timber deck on one side and a sunken court with rock retaining walls on the other.

This indoor-outdoor integration has been achieved while still giving the occupants the desirable level of privacy from passing traffic and from people on the beach.

The cooler climate of the lower South-West calls for a heat booster unit to cope with mid-winter extremes. Here it is a wood-burning, slow-combustion stove, and it only has infrequent use.

Frank Platell