HOUSE

-

Place No. 343

ADDRESS 32 Rosco Drive

Templestowe

Last Update

DESCRIPTION The Landmark houses use natural materials, open-planning, private outdoor spaces and consistent aesthetic, low maintenance and particularly, energy conservation. (In this last, they differ from Merchant Builders houses of the 1970s). The post and (often steel) beam structure on a 900mm module, with partition internal walls, allows flexibility in planning. There are four distinct area zones : entry, living and dining, kitchen and family; parents' bedroom, en-suite and study; and children's bedrooms and bathroom.

All houses were tested for thermal performance by Melbourne University's Tempal Computer Simulation Programme, developed by Alan Coldicutt. Landmark claim they use 25% of the energy for heating and cooling of a typical project house of similar size. They have north glazing, battened pergolas, thermal mass, heavily insulated walls, floors and ceilings, sealed doors and pelmets. Landmark claimed their Active Solar Air Heating System as the only commercially successful system of its kind in Australia. It uses solar air collectors and rock pile thermal storage, providing warm air and hot water.

In No.32, the "Solar House", it provided 60% of the annual heating, with auxiliary heating from electric heating elements in the heating ducts and a fireplace which both radiates and stores heat simultaneously. The rock pile can provide partial cooling in Summer. A heat exchange coil heats domestic hot water, which passed over the heat exchanger, can also cool in Summer and also heat a swimming pool.

They are all brick houses with steel deck roofs, with broadly rectangular pavilion plans sited east-west to maximise exposure to northern sunlight. Two have pergola terraces on this side. The blocks are surrounded on three sides by grassed open space. Two have recessed entrances, protected by a garden walland all have double carports in front. The brockwork of Fasham & Johnson's No.34 has been bagged and painted pale blue with teal and greys. Nos. 30 and 32 have fawn pressed brick, with a light brown stained timber. No.32, the "Solar House" has a clerestory roof, allowing south sun to penetrate further, with solar panels on the north slope for the full length. The long, low profile of No.30, the "Sun House" make optimum use of its site for outdoor recreation. The central access spine is never a wasteful passage. Parents' and childrens' zones are at opposite ends.

No.28 the "Green House", (now called "Kyaara"), has salmon pink wire-cut bricks and fawn stained timber, set in a bush garden. It is designed about a conservatory which emanates soft, natural light, but is also a passive winter heating device and shades in summer. There are active solar and solid fuel heating systems and a thermostatically controlled forced ventilation system. It has a solar hot water heating system by "Somer Sohr", using acrylic domed collector panels, said to be superior to the glass panels at No.32. An electric differential controller prevents boiling or freezing. Thermostatically controlled space gas heating boosts off-peak. Living areas have concrete slabs and internal brickwork, providing thermal mass. Bedrooms have timber floors, for cooler sleeping conditions.[5] No.9 Rosco Drive is a Merchant Builders Pty Ltd house, with some minor alterations.

Comparable to Cocks and Carmichael's house at 18 Summit Drive, Bulleen which is also carefully sited. Also comparable to Merchant Builders estates at 37, 66-70 Olympus Drive, Templestowe Lower and 4-12 Beverley Hills Drive, Templestowe (1987), in particular; but also to Winter Park, 137-141 High Street, Doncaster (1970-75), 412-418 Porter Street (cnr. Blackburn Road) Templestowe (1989) and 1-3 Exford Place, Donvale (1972).

Condition -

Integrity Not known

Threats

Key elements

Designer Landmark Builders Pty Ltd

HISTORY Landmark Builders Pty Ltd was founded in 1979, owned and operated by its two working directors Ken Barker and Peter Howell. Nos.28-32 formed its display centre and were built over 1978-81.[1] No.32, the "Solar House" designed by architects Cocks and Carmichael commenced

building in early November 1978 and No.30, the "Sun House" in late November 1978, designed by Peter Williams and Gary Boag. No.28, the "Green House" was designed by Peter Crone and commenced in early February 1981. Landscape design for each was by Jennifer Baker and interior design by Kerry Smith. This is the only estate by Landmark of passive solar energy houses.

Cocks and Carmichael (now Cocks carmichael Whitford Pty Ltd) was founded by Robin Cocks and Peter Carmichael in 1968 and has developed a reputation for refined and elegant domestic design.[2] The "Solar Hose" won the 1979 Housing Industry Award, the 1980 RAIA House of the Year Citation, the 1980 RAIA Energy Efficient Building Award and the 1980 Gas and Fuel Corporation Energy Management Award First Prize. The design was based on an experimental house built at CSIRO, Highett, which was scientifically monitored.

The "Solar House" contains a Tromb-Michelle wall : the first successful use of this passive solar heating device to heat a family house, in the world. It was developed by Tromb and Michelle, an architect and engineer, in an installation in the Pyrenees, in france, but failed. The system was further developed and refined by Bill Charters, assisted by R.W.G. (Bob) McDonald of the Department of Mechanical Engineering at the University of Melbourne. They built a successful prototype wall on the roof of the Mechanical Engineering building.

A research grant was obtained to built and install the first Tromb-Michelle wall in a project display house. This was at 32 Rosco Drive, the "Solar House". It consists of a north-facing 230mm brick wall painted black and fronted with a sheet of glass with a 120mm cavity between, exposed to the sun. Apertures at top and bottom set up convection currents in the cavity. The crucial development in Melbourne was to determine the correct cavity width for effective operation. A spring-loaded trip-switch opens and closes the apertures.

The Tromb-Michelle wall was next installed in a house in Beverley Hills Drive for Merchant Builders Pty Ltd.[4] and measurements were taken regularly of its effectiveness in testing the house in comparison with a control, a conventional project house of the same design, built opposite. The Tromb-Michelle wall house obtained up to 45% of its heating energy from the sun.

Peter Williams and Gary Boag were well known Melbourne domestic scale architects who won the RAIA House of the Year Award in 1978. Their design for the "Sun House" won RAIA Project House of the Year Award 1979 and the HIA Award for best display house in its category.

Landmark claimed for the Peter Crone's design for the "Green House" : "there is no house of higher (architectural) quality, displayed to the public by a builder." It won the Housing Industry Award for 1981. No.34 was built by the firm of builders Fasham & Johnson, who were founded in 1972, from December 1987. The design, orientated to receive maximum northern sun, screened in summer by a pergola, is also of a high architectural standard and like Landmark, in the tradition of Merchant Builders. It was built for owners Mr Watkins and Ms Broban. It is also a passive solar house. It is a standard Fasham-Johnson design, no particular architect was involved.[3] The swimming pool was added later.

Creation Date c1979 **Change Dates**

Associations **Local Themes**

STATEMENT OF SIGNIFICANCE

The split level open plan Solar House was designed by Cocks and Carmichael, architects, for Landmark Solar Houses Pty Ltd, and constructed by that company for display purposes in 1978-79, (The Solar House is one of a group of three different energy conservation houses designed by prominent architects for Landmark's Rosco Drive display village). The Solar House's ducted central heating system and solar powered hot water system (now removed) was designed by Bill Charters, the 1979 President of the International Solar Energy Society. The central heating system comprises roof-mounted solar air collectors, a 4.3m3 bluestone screening thermal storage rock pile located behind and connected to the central open fireplace, and a duct distribution system. Electric booster elements in the ducts can be used when required to supplement the warm air coming from the rock pile. Other energy conservation features include carefully designed orientation and zoning of internal spaces, north facing glazing, sun protection, thermal mass, insulation and selected screen plantings surrounding the building. The house won the 1979 Herald-Housing Industry Association Award, Royal Australian Institute of Architects citations for new housing and energy efficient buildings (1980), and first prize in the 1980 Gas & Fuel Corporation Energy Management Awards.

The Solar House is of historic, technical and architectural importance to the State of Victoria.

The Solar House is historically important as the manifestation of a realisation which emerged during the 1970s that the supply of fossil fuels was exhaustible, that energy conservation was desirable, and that alternative sources of energy, such as the sun, could be commercially viable for heating residential buildings.

The Solar House is technically and architecturally important as the first commercially available solar energy project house in Australia. The integrated building and equipment sysetem was designed to provide approximately 60 percent of the annual heating requirements for the house built in Melbourne - a percentage recognised as the optimum economic level for solar contribution. The Solar House is architecturally important for its innovative energy conservation design characteristics, and is a refined and elegant example of the residential work of Cocks and Carmichael, architects. It is also an important early example of the work of Landmark Solar Houses Pty Ltd a company dedicated to the design construction and marketing of project houses that had an emphasis on energy conservation through active and passive solar energy systems.

LEVEL

RECOMMENDATIONS

Heritage Register Listings

Register	Reference	Zoning	Status
None Specified			

Extent

Heritage Schedule

External Paint Controls:	On VHR:	VHR Ref No:
Internal Alteration Controls:	Prohibited Uses:	
Tree Controls:	Aboriginal Heritage Place:	
Outbuildings or Fences:	Incorporated Plan:	Incorporated Plan Details
Description:		

Conservation Management

Extra Research

BIBLIOGRAPHY

[1] City of Doncaster and Templestowe Building Application Records : No.32 BA 32863, 6 November 1978; No.30 BA 32891, 23 November 1978; No.28 BA 38026, 4 February 1981 and No.34 BA42479? 18 December 1987.
[2] Doug Evans (Editor), AARDVARK. The RMIT Guide to Contemporary Melbourne Architecture (Dept. of Architecture, RMIT) Melbourne (undated, 1992?) pp.170 &171.
[3] Mr Jim McLenaghan of Fasham Johnson Pty Ltd., in conversation with Geoffrey Wright, 2 August 1993.
[4] Context Pty Ltd, City of Doncaster and Templestowe Heritage Study, Doncaster 1991, p.160. Ref. : 174.23. The Tromb-Michelle material is from Bob McDonald in conversation with Richard Peterson, 1 August 1993.
[5] Various "Landmark" typed promotional sheets, courtesy of Mr. Ken Baker, held by Richard Peterson (undated).