



1. Big Tree Cabin – private but accessible.
2. Total seclusion at Streamside Cabin.
3. View from verandah of Cliff Top Cabin.
4. Teepees – a unique alternative.
5. A steel connector joins the bush poles at the top to secure the teepee frame.
6. Preparing bush poles for the framework.
7. A cosy fire will welcome you in winter.
8. Cabins have well equipped kitchens, or you could use room service!

Huon Bush Retreats

Ethical investment meets private conservation

BY PAUL DIMMICK

Huon Bush Retreats is an owner built, nature-based accommodation village, 50 minutes south of Hobart in Tasmania. It is also an interesting conservation and funding model. Many eco-tourism ventures are set up to use a natural resource, but then take little if any responsibility for the ongoing protection of that natural feature. In this upside down business model, conservation is the driving force and the tourism income makes it possible to buy the land and protect it.

Huon Nature Trust is a group of like-minded people who purchase land for conservation and develop it for nature-based tourism. Conservation comes first and covenants attached to the land titles protect the natural values in perpetuity. It is within this framework that Michael Higgins and I, as project drivers, have built Huon Bush Retreats.

This is a rather large project for owner builders and, being based on commercial conservation, has a complex set of issues to be negotiated. I have practical skills in infrastructure and land management, while Michael focuses on keeping track of the project, organisation, ordering, décor and the touches that make guests feel special. Between us, we seem to have most aspects covered.

Fortunate find

I was exploring the access to another property that we had bought nearby, when I came across a grassy cliff top. It overlooks a rainforest gully and a hidden waterfall. I thought it would be wonderful if we could buy this property and protect it forever. Half an hour later, when I reached the property boundary, there was a for sale sign on the gate!

A year later, after securing funds, council approval and developing



a business plan, work started by upgrading the existing horse track to a basic road. We managed to find an environmentally sensitive excavator driver – Tom actually understood when I asked him to protect a tiny sapling, or to replace the topsoil on the batters, mossy side up.

I cannot emphasise enough the importance of properly drained and cambered road formations. Get the water off the road and the road surface will look after itself for many years. We installed culvert pipes made from old gas bottles welded together, and other pipes extruded from chopped up 20 litre plastic drums.

Eight buildings plus the two tipples require substantial distributed infrastructure; two kilometres of internal roads, five kilometres of buried pipes, and a five kilometre network of walking tracks.

Cabins

The building kits, from Statewide Constructions, were initially designed for basic uses such as mine dongas or shacks. We have removed some internal walls to create our spacious, open plan studio cabins. Choosing a quality fit-out, and adding awnings and decks, has

turned these basic kits into very tasteful guest cabins.

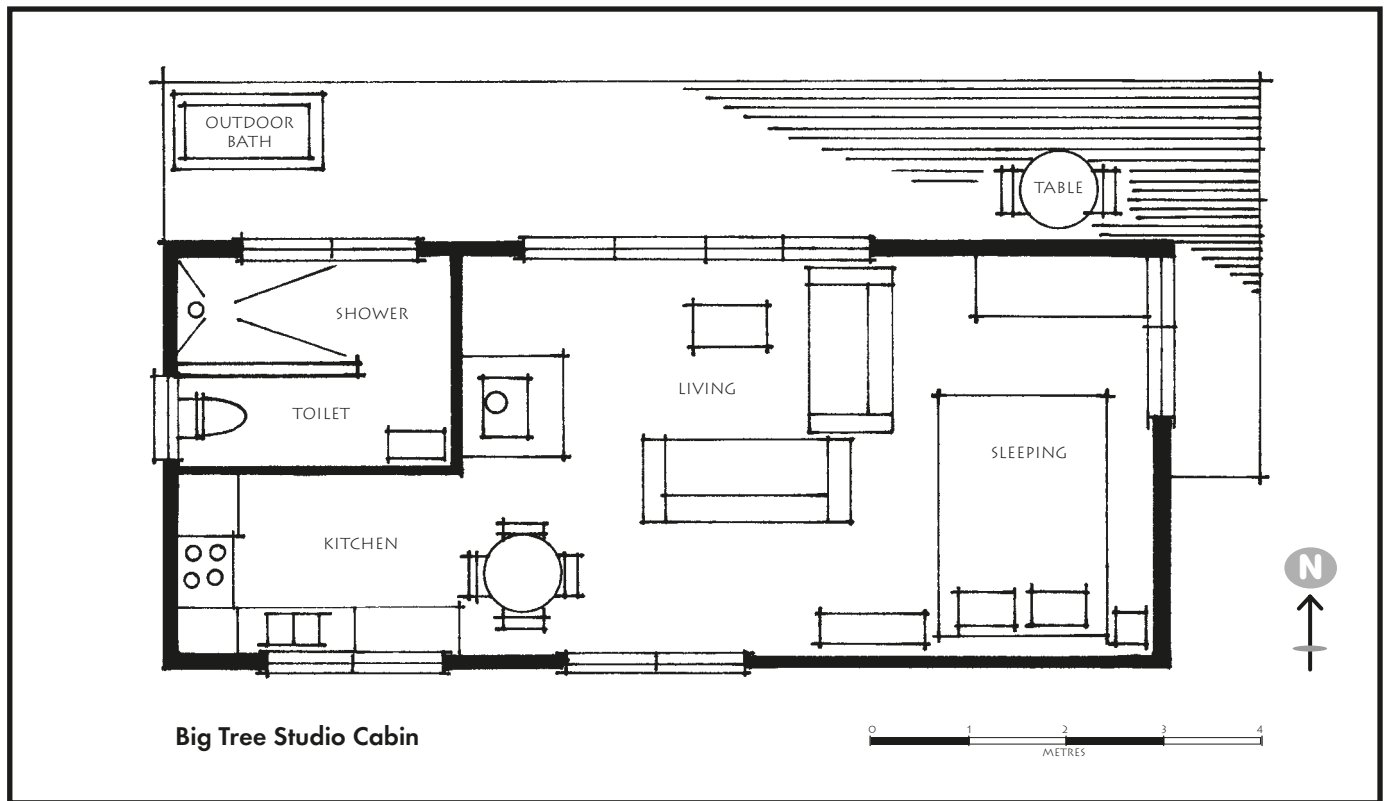
Mega Anchor footings supplied by Access Solutions were chosen for their speed and low environmental impact. Because they are driven into the ground with an electric jackhammer, no excavation is necessary. This keeps the site very compact and there is no soil to be disposed of. From footing kit arrival to floor sheet installation can be done by two people in just a few days.

Wall frames come in sections that can be easily handled by two or three people, and quickly screwed together in just two days. Cladding took a few days more, followed by the windows. From first footing to lockup took about 30 person days per cabin. Plastering, painting, and fit out took longer than expected and stretched the budget slightly.

Our budget determined that we use *Pink Batts* fibreglass insulation. Windows and doors are all prefabricated aluminium framed (again fire resistance dictated this for the 'bush') with toughened fire resistant glass.

Tipples

The tipples are considered to be tents so they fall under our campground licence. We designed them and had an engineer certify them. They are basically a deck structure with specially designed steel stirrups that are bolted to the floor, which have 150–200mm bush poles in them joined at the top with a steel connector. The connector encompasses a small cowling to prevent rain entering the tippie via the canvas top seam. The outer skin is canvas with a plastic window and a big sliding glass door onto a covered timber deck. Tippie guests share the amenities block and outdoor kitchen with the campground guests.



Reception

The reception building, commercial kitchen and managers flat are all contained within the one building, much the same as the cabins. The commercial kitchen is used to cater for guests (including conferences and weddings) and soon will also be used to make curries for a local cafe, and jams and relishes for sale locally.

Outdoor entertainment area

This shelter, stage and camp kitchen is a pre-engineered structure adapted from another Statewide Constructions building. The curved roof truss has been cut in half and arranged to form an upward sweeping roofline that shows off the spectacular escarpment overlooking the village.

Services set-up

Each building has its own independent solar electric system, water heater, wood fire, composting toilet and wastewater treatment system.

Water is harvested from eight roofs, used, treated and returned to the environment through seven evapotranspiration beds, each suitable for an average sized household. This has increased the cost, but avoids

concentrating environmental impacts into one location.

Individual gas bottles service each building. This meant a tedious series of inspections, forms, approvals and signage. At one stage, the gas authority seemed to think we had one giant gas tank and a reticulation network to the cabins, one of which is 1km from reception!

The studio cabins have a solar electric system consisting of: 2 x 85 watt BP photovoltaic arrays, PL regulator, 2 x Trojan 105 ampere hour batteries (each battery = 3 of 2 volt cells). This set-up provides adequate capacity for Big Tree and Acacia Grove Cabins at most times. Big Tree requires some supplementary charging during times of heavy occupancy in the winter. We use a small 1kVA Honda generator, expensive but quiet, reliable and economical on fuel. The addition of one extra panel on each building would obviate the need for the generator. Streamside Cabin, which is situated in a secluded forest grove, has been equipped with four arrays and this provides adequate capacity except in very rare circumstances.

The group cabins are equipped with: 3 x 85 W BP arrays, PL regulator, 3 x 750 A.h batteries (each battery = 2 of 2V cells). Supplementary charging is rarely required.

The reception building has: 4 x 85 W BP arrays, PL regulator, 3 x 1300 A.h batteries (each battery = 2 of 2V cells). This provides adequate capacity to run a full office and kitchen appliances except in the middle of winter. If we want to watch a movie on the big screen TV, we generally run the generator. The addition of two extra panels would overcome this minor shortage.

The teepees have a small and simple system: 1 x 85 W BP array, PL regulator, 1 x 250 A.h battery. Supplementary charging is almost never required as these systems run just three lights plus a small CD player.

Power for lighting is run in heavy (12mm diameter) 12V cable and 12V compact fluoro bulbs are used. We have found that the Nelson brand has a very short life, and seems to create so much heat that they damage the bayonet fittings; we have had to retrofit heavy-duty bayonet fittings as the standard ones fail. We can occasionally find other brands, but it is not easy.

Waste treatment

We chose dry composting toilets supplied by Nature Loo (now Ecoflo). This system is ideal as it collects, then processes small batches. As our occupancy varies seasonally, we just

alter the chamber changeover timing to suit. Each chamber has three phases: collection, initial compost, and final compost. Collection lasts a few months during our busy season, longer in off-season. When nearly full, the chamber is exchanged and left under the building for initial composting. Much of the weight is vented as gas from biological decomposition and evaporation. In about three months, the weight has reduced to just 50 kg or so and the chamber is loaded onto a vehicle for final composting in full sunlight. The final product is similar to fine soil and is buried in our tree plantation. All locations use identical chambers, so as occupancy rates increase we can just buy more chambers to add to the pool.

The evapo-transpiration (ET) beds started with a bed of sandy soil, about 500–900mm deep, with a 4 x 5m surface area. This was very lightly compacted and then made level, before being topped with 100mm of 20mm blue metal. A slotted pipe raft was pressed gently into the top surface of the blue metal, and carefully levelled to ensure even water distribution. A layer of geofabric plus another 300–500mm topsoil finished the ET bed. Plants are allowed to colonise through natural seeding from the surrounding forest and bracken roots in the soil.

These beds work by virtue of their enormous surface area, which consists of the combined surfaces of the millions of sand grains in the bed. These surfaces become naturally coated with micro-organisms that treat the wastewater. Unlike absorption trenches, the beds are constructed above the existing natural surface and above the water table. Little if any water reaches the water table as the plants growing

in the bed take most in through their roots and transpire it out into the air. In doing so, they absorb and lock up the nutrients from the wastewater.

Fire proofing

Construction methods have been chosen to suit a fire prone environment and environmental impacts have been kept securely in check. Water is harvested, treated and disposed of on site, buildings are fire resistant steel and glass, and electricity comes from solar systems. The buildings have been nestled into existing nooks on a long regenerating farmland area on the edge of the old-growth forest.

Fire safety was a significant issue with the authorities, especially building a commercial enterprise in a forest environment. We also have 30,000 litres of static water stored permanently for fire fighting, plus another 5,000 minimum at each building. The static water is reticulated to hydrants around the village and can be pressurised in case of fire.

The fire reticulation system is also used to complete the domestic water circuit. Each building has a 10,000-litre tank to catch rainwater. This feeds the next building below, and so on down the site. At the bottom of the site, the fire pump picks up water and sends it up to a header tank above the highest building. Each tank has a float valve at the 50% level, which is fed from the same pressurised fire fighting system. If rain is not sufficient, each tank is automatically kept topped up from the fire system. Thus, the entire main village

is transparently serviced, with just one pump, run once a week.

Tasmania Fire Service was helpful in finding a way to meet the fire performance required without having to clear the usual 30 metres, making it possible to realise the dream of creating a 'bush retreat.' With all steel construction, toughened glass, reticulated water, sufficient storage capacity, and a fire emergency plan, we satisfied the requirements that the guests would be safe in the event of fire. Even still, we have to check the fire danger each morning and if it is forecast to go above high, we do hourly fire danger readings on site. If the FDR (Fire Danger Rating) reaches 25, we have to evacuate the site until 6pm.

Red tape

Huon Valley Council gave us a series of things to achieve before approval would be granted, and then a further series before occupancy. Council officers were helpful and guided us through the requirements. Unusual items such as the composting toilets, evapo-transpiration beds and lack of fire clearings were seen as an interesting variation rather than something that would not be allowed. Generally the approach was 'Well - you have to comply with this performance. Let's find a way to achieve that,' rather than the 'Don't blame me, I didn't write the rules...' that can sometimes be imposed by officials.

Telstra added to the drama by refusing to accept an installation order until we had a building. We offered to lay the phone cable at our own cost, while the road works were happening as we had done on a previous project, but

Below left: Teepee ready for its canvas.

Below right: Opening day!



Telstra refused to co-operate. Instead, they held out until construction started, then had to provide a mobile phone to us at their cost, and then lay the 4km of cable themselves.

Green tape

A strange situation arose with our development application. While it is normally environmentalists objecting to developments by people they see as environmental vandals, this time it was loggers and farmers objecting to our conservation based enterprise. Objections were that we were going to make too much dust, take too much water, and 'what are they going to do with all that rubbish.' The Resource Planning and Development Commission tribunal immediately saw that our impacts would be far less than any other use of the land and smoothed the way for the development to be approved.

Huon Valley Council has a range of environmental protection measures that we had to comply with. However, because our own measures were far more stringent, some of the compliance items were meaningless. Council insisted that we have silt traps on drains leading from the site - very useful if the site drains onto a public road or sensitive area, but in our case the site drains into natural bushland more than 100m from the closest stream.

We also had to report the number of trees that we were going to cut down (ten). Rather strange for a council that the year before approved the construction of a chip mill and wood fired power station in the same municipality.

We have chosen to protect the natural values by applying conservation covenants to the land titles. These provide for a maximum of eight cabins. They also set out a specified area within which all our human occupations must fit (specified roads and walking tracks excepted). This prevents us, or future owners, from gradually expanding outwards.

Ongoing works

We have been very pleased with the overall speed of the project. From October 2003 to February 2004, we completed the first stage; two studio cabins, reception and commercial kitchen, outdoor entertainment area,

campground amenities block, a lookout and 1km of walking track.

Whilst contractors did much of the work, we were on site every day. Michael did the ordering, organising and oversaw the whole project, while I took a very hands on role with the actual building supervising and working with contractors. Some days were very quiet, perhaps just myself and one offsider laying out footings or receiving deliveries. Others were hectic with a flurry of contractors, inspectors, and chequebooks. One day, I counted 26 people on site.

Senator Bob Brown opened the retreat on 22nd February and our first paying guests arrived the next night. The third studio cabin was completed a month later.

Two years of trading showed the business to be viable, so we added a family/disabled cabin plus two tipis during spring 2006. Currently (November 2007) we have just completed our fifth cabin and are finishing off our 5km walking track network.

Hindsight

There is something to be said for choosing the best materials, techniques and most diligent workmanship first time around and then not having to go back and correct problems later. There is also something to be said for doing it quickly and cheaply to get a usable result immediately and then upgrade over time if necessary. This is where Michael and I disagree on many occasions. As a result of cutting costs in some places, there is now a larger maintenance component. But the flip side is that the cost cutting has allowed the retreat to be built quickly and affordably and is accommodating happy, paying guests.

We have learned that everything costs more than budget and takes longer than predicted. Get firm quotes and agreements in writing from contractors before the start of any project.

We have very successfully achieved this massive project by winging it and sometimes following gut feelings. The challenges have been enormous but it's not such a bad way to go. Managing such a project and the general development and running of the business has created a need to manage the stresses it has caused in our personal relationship. I would only recommend

such a project to a very strong couple that know each other very well.

It has been a very busy but satisfying four years. We wake up each morning, look out to the forest and know that it is protected. Guests tell us how much they enjoy their cabins and the forest and some go away with a better appreciation of how valuable it is to build in an environmentally sensitive way. ■

SPECIAL OFFER: Huon Bush Retreats have a special offer for readers who mention seeing this in *The Owner Builder*. \$75 per night (min 2 night stay) in a luxury tipi (a saving of \$20 per night) or \$150 per night (min 2 night stay) in a studio (a saving of \$50 per night). Valid until 31st December 2008.

Huon Bush Retreats, Browns Road, Ranelagh, Huon Valley, Tasmania.

03 6264 2233, www.huonbushretreats.com



- **Huon Nature Trust**

Commercially supports the aims and protection of Mt Misery Habitat Reserve. Environmentally minded people have pooled money into the trust to achieve protection of natural values.

Contact via *Huon Bush Retreats*.

- **Tasmanian Land Conservancy**

Conservation through land purchase is positive and active. The TLC provides an opportunity for you to make a real difference to the future of Tasmania's environment.

03 6225 1399, www.tasland.org.au

- **Statewide Constructions**

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1300 768 013, www.ecoflo.net.au

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