

Building diary...

Water, water, everywhere... but not in the toilet!

BY LYNDA WILSON

So much, and so little, has happened in the last two months. I had agreed to use 'Lucky' until lock up stage on the house, on the condition that I would have to be 'flexible' to be fitted in between other jobs - trying to keep all the people happy all of the time! As a result, I would have workers on-site for a few days at a time, but then I wouldn't see them for a week or so again.

Frames to lock-up

On 8 September, the house frames were eventually delivered and erection began. It took four men (two carpenters and two labourers) five days to complete the wall frames and fit all the rafters, plus fit all the windows and doors - pretty good going as there was a fair bit of on-site construction required. Measurements were then taken and roof sheeting ordered to correct sizes, to minimise on-site cutting and waste.

At the beginning of October they started on the wall cladding (*Air-Cell* insulation and western red cedar) before

Brian, the 'fascia man,' came in to fit the fascias and gutters.

Lucky and the boys returned mid October to put the roof and barges on and to do some internal structural work. Once again, accurate measurements were taken for the remaining *Colorbond* wall sheeting, and ordered exactly to size.

The final spurt happened at the end of October, when the boys returned for three days and 'smashed' the rest of the external work that still needed doing. By the time they left at 5pm on Thursday 28 October, the house was effectively at lock up stage - minus a front door!

When on-site, they worked damned hard. Mornings started at 7.30am and they rarely left before 3.30pm, with only one break around 11am each morning.

Front door fun

As you may recall from my earlier rantings, I had eventually settled on aluminium windows via a roundabout way. Having made that 'compromise,'

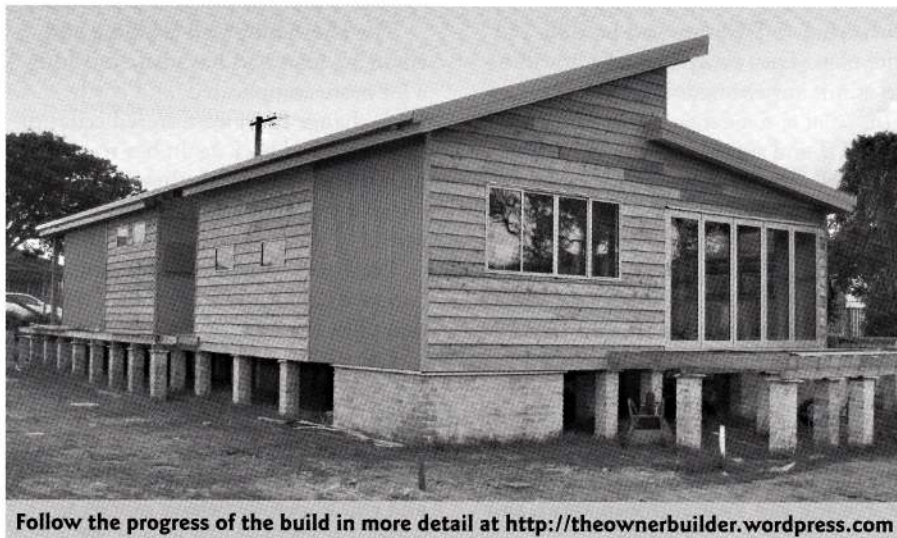
I still had my heart and mind set on a feature timber front door. So I started looking - and slowly but surely realised it was not going to happen. All the doors I looked at, although nice in design, were either not 'real' timber but laminated or veneered, or they did not come with double glazing (what would be the point of large single glazed sections in the front door when the rest of the house is double glazed?), or would cost an arm and a leg to be made up as a custom feature.

So back to Langford Windows I went. I have been very happy with their service, and the doors and windows delivered to date are really good. Lucky even commented that they were the easiest to install he had ever done, as everything just went in first time and worked - including the bi-fold doors, a notoriously difficult item to install.

The area to be filled is large - 2.4m wide by 2.2m high - and I had already decided to do it as a large glazed door with sidelights, rather than build wall structure each side of the door. It is south facing, and frosted glazing would allow privacy while still letting light in. Needless to say, this option was not exactly cheap either, with a double glazed unit of this size coming in at just under \$5000. It is due any day.

Absorption pit

One of the conditions of our development was the creation of an absorption pit for stormwater runoff, as we cannot easily discharge to the street. Our neighbour had started building and had an excavator on-site, which was



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Other than still needing a front door, the house is at lockup stage - hurrah! Decking and walkways are still needed to complete the outside.



kindly used to dig the 3m x 3m x 1.5m deep hole in no time at all.

I then lined it with geofabric and had Concrush deliver 5m³ of 40mm cobble aggregate (recycled crushed concrete). The delivery truck couldn't get close enough to tip it all in the hole, so around 3m³ had to be manually moved into the hole. We then laid 90mm perforated pipe coming from a drain pit and covered this with aggregate and geofabric before backfilling the hole – again by hand! What owner builder needs to go to the gym?

The overflow from the four rainwater tanks (which all the downpipes will go into) will be directed towards the drain pit and therefore into the absorption pit. As we are sited on a huge sand dune, drainage is not going to be a problem!

On-site waste

The waste area set up is around 2m x 2m. Each day, I sort through it, separating into 'rubbish' (plastic, tubes etc), timber offcuts, metal and recyclables. I also have a timber reuse pile, for any pieces big enough to be used elsewhere or untreated timber that can be used on the barbeque. I have been able to dispose of most of the 'rubbish' and all of the recycling through the normal household refuse service. Metal is taken to the scrap metal yard, and once there was enough mixed building material to fill a skip, I got one in to clear that off the site.

As most of the waste generation is now over, we are using our trailer as a mini-skip, to be taken to the local tip when it is full. The charge for building waste is \$165 per tonne, charged on a pro rata basis with a minimum of \$39. I don't expect to do more than two trailer loads.



Above left: The absorption pit in all its glory.
Above right: Many different materials requires a lot of attention to detail at join areas.

Sewer saga

In TOB 159 I mentioned the curve ball with the water service. Well, the sewer has proved even more interesting!

Any block of land made ready for sale has to have access to water, sewer and power. When we bought our block, the water diagram showed a sewer connection in the rear laneway and, as such a connection is a provision of subdivision, we didn't think any more of it.

Time came to connect up to the sewer, and the fun started. The existing connection doesn't allow any fall from the land; the connection is at 2.3mAHD and the lowest point on our land is 2.06mAHD. I contacted Hunter Water, who sign off on new sewer connections, and their response was that it was not their problem but that I should follow it up with the plan creators.

This happened to be the same surveyors who did the subdivision surveying and who we had used for our site plan. They proved equally unwilling to admit any wrongdoing, stating 'The point of connection was approved by HWC...' and suggesting that we either 'Place fill over the proposed sewer mains to provide minimum cover' or 'Construct aerial house drains in a suitable conduit until acceptable cover is achieved.' Passing the buck, I think it is called...

So in order to move on with the sewer connection, I am being forced to contract a new suitable connection myself, at an estimated cost of \$8000. I will be following this up though, with the Office of Fair Trading, the Board of Surveying and Spatial Information, and anyone else who will listen!

Ongoing costs breakdown

Brought forward \$180,000
(See TOB 161 Oct/Nov 2010)

Insulation	\$5000
Ply & timber	\$2800
Labour (loft & house floor)	\$6500
Garage bathroom materials	\$1000
Recycled timber posts	\$1500
Odds	\$400
Absorption pit	\$550
Garage gas hot water system	\$1375
Skip	\$285
Front door deposit	\$1000
Extra window	\$500
Total to date	\$201,000

Hindsight

Isn't hindsight a wonderful thing?

Our decks are just over 1m above ground level, therefore we are required to have balustrading in place. If we had filled the back and front areas only a little (about 200–300mm would have done) then the decks would not have required this. It is still something we can do, so I am thinking about it...

I decided that I wanted metal downpipes as I prefer the look and painted plastic eventually looks like painted plastic! However, that means that we will require fall from the end of the downpipes to the water tanks, while a plastic system would have been able to be 'charged' (plastic joins can be glued and therefore don't leak) meaning that the pipes could have been run more or less flat under the house to the tanks.

The alternating wall cladding and changing materials has made finishing a lot more complicated, and costly. Each change from western red cedar to Colorbond and back again has required a neat timber stop bead; these don't come cheap in cedar at around \$30 per lineal metre!

Brick piers require ant capping, while concrete column piers do not; I really don't like the look of the ant caps...

Overall, I am very pleased with the results so far. It is costing a lot more than expected, largely due to the garage/loft coming close to \$100,000 on its own! But it looks great, is simple and will hopefully behave exactly as intended. I'll keep you posted. ■

And now the REAL work begins...

— BY LYNDA WILSON —

It was such a relief to finally reach lock-up, but I soon realised that we were really only about half way done and that major work lay ahead.

Once all the major structural work was done, all was quiet on site for a while as I gathered my thoughts and started organising the internal works.

Electrical plan

Even in a relatively uncomplicated house like ours, I have been amazed by the amount of wiring required and the time needed to do it all. To date, 10 days of work have taken place and \$9255 has been spent - that is without light fittings and it is still not finished!

I have used David Watson for all my electrical, even though this involves a 200km travel charge and overnight accommodation. I 'met' David through the magazine, when he was mentioned in a previous article, and was impressed with the work he did for us when we lived in the Paterson area. He is methodical and neat, is conscious of providing energy saving solutions and has recently registered as a solar designer and installer.

I have deliberately steered away from any light fittings that require transformers (downlights, some LEDs etc) as this would have added more complexity, with additional wiring and siting of transformers. There is very little two-way switching and all lights are 'standard' 240 volt - only three of the living room lights have been set up to allow for dimming (extra wire required). There is no automation, with the only 'luxury' the inclusion of power winders on the clerestory windows.

Fully insulated walls and cathedral ceilings meant that we had to carefully



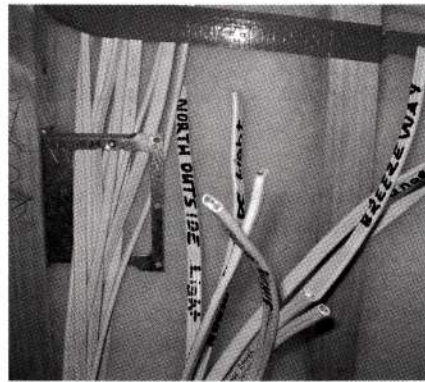
consider where wiring would run, and once in place it is more or less stuck there - running additional wiring through insulation batts is pretty difficult.

A few mistakes have been made. The placement of the wiring for the wall-mounted bedside lights is a little low (my fault) and will affect the style of light chosen to compensate for this. The main power cable coming into the house enters under the eaves, runs inside the framing of an external wall to below floor level and is routed to the meter box, all the time 'unprotected' and carrying full current. For this reason, the section of wiring in the wall is not allowed to be captivated within a conduit, to reduce the risk of a nail or screw being driven through it. This regulation was only noticed after the cabling was laid in conduit, which meant that the section in the wall had to be redone - luckily this was

discovered before the plasterboard was fixed in place.

The selection of light fittings has been a challenge - there are just too many choices! The idea of LEDs was appealing but I soon found that many were either well out of our budget or required more complicated wiring. I also wanted to standardise, as much as possible, the range of light bulbs used in the house while keeping to low energy versions. Many of the standard 240 volt fittings can take low energy compact fluorescent bulbs, or even GU10 LED bulbs. For this reason, I have restricted my selection to these.

Being only 250m from the sea, materials needed to be considered. I love the look of brushed steel and glass - but many of the 'steel' fittings are actually low grade and will rust or stain quickly, even indoors. The selection of marine grade or 316 stainless steel will reduce this, but even so we will need



Opposite page: Already a light and airy space. Left: Internal walls have also been insulated. Above: 'Simple' electrics - and this is just one!

to be vigilant. Outdoors this problem is compounded so good quality fittings (i.e. expensive) are imperative.

Something I nearly forgot all about was the TV aerial and socket points! Luckily I remembered a few days before the plasterer was due, and had two sockets installed on opposite ends of the living room. As the house is on piers, it would be relatively easy to add additional points if required at a later stage, but the insulated walls will make it a little more difficult. Previous experience of me changing the living area furniture configuration on a regular basis made the two socket points an obvious requirement.

Sewer saga sequel

At the end of November, after obtaining a new sewer plan and lodging a new application for a sewer connection with Hunter Water, the sewer connection could finally happen. This involved digging down 2.5m in order to connect to the sewer main, with the added requirement for shoring up and the presence of a safety officer when the plumber needed to descend into the sewer main (treated as a confined space). I had contracted an independent registered plumber to carry out this task, who had provided a reasonable quote of \$4800 and let me know his hourly rate, including excavator, was \$70.

I was rather dismayed when he arrived without shoring equipment, or even a crowbar to open the sewer. I was then asked to go to the hardware and buy ply, while he raided our waste timber pile for sections to build framework for a shoring box. So I was paying \$70 an hour for an excavator operator cum plumber to

build timber boxes! Then the box was too flimsy to be removed and reused, so another had to be built - this time using some discarded brick pallets...

The original quote had been a one-day job, which I had suggested would require more time due to the fact that a concrete apron needed to be removed as well as part of a fence. In the end, he was here for five days, mostly due to the inefficient shoring operation, and sent me an invoice for \$8400! Needless to say, I threw all my toys out of the cot and refused to pay that amount.

It is the only serious problem I have had throughout, so I guess you could say I have been lucky, but it certainly has tainted the project and has made me very suspicious. There have been a few other minor issues, like work not completed to a satisfactory level at times, but these have been amicably resolved.

Plumbing plan

In line with my attempts to use local trades wherever possible, I got in contact with Luke Wagner of Wagner Plumbing Services. He has been patient with me - even when I hadn't yet made decisions that he felt were important - and has made the effort to accommodate our unusual requirements.

Again, the house plumbing is relatively simple (bathroom, ensuite, laundry, kitchen). We have installed 6000 litres capacity so far (3 x 2000-litre underdeck rigid water tanks), controlled via a *Bianco Rainsaver* and pump to service the house with automatic switchover to mains when required. I did not want a system that fills the tanks from mains water, as once the chlorinated water is in the tanks it is difficult to lose that 'town water' taste.

Ongoing costs to date

Brought forward \$201,000
(See TOB 162 Dec 2010/Jan 2011)

Nov/Dec 2010

Structure	\$54,330
Kitchen appliances	\$4930
Bathrooms	\$6575
Solar hot water	\$4570
Solar power deposit	\$1000
Electrical	\$9255
Water tanks & pumps	\$6650
Garage loft odds	\$3670
Sewer connection	\$7750
Total to date	\$301,000

Breakdown to date

Design, insurance, paperwork	\$17,215
Site expenses	\$11,830
Garage loft	\$95,750
Tools	\$1075
House:	\$175,310
Structure	\$99,500
Plumbing	\$370
Insulation	\$5300
Windows and doors	\$36,650
Kitchen	\$5400
Bathroom	\$6575
Solar hot water	\$4570
Solar power deposit	\$1000
Electrical	\$9255
Water tanks & pumps	\$6650

However, as we are in an area of possible high contamination (coal dust, pesticide factories), we have decided to run town water to all 'drinking' points i.e. basins and sinks. All other water outlets will run from the tanks (bath, shower, toilets, laundry), with the kitchen having both. For the same reasons, the hot water system is filled direct from town water in order to prevent damage from contaminants.

I have tried wherever possible to purchase Australian products, and as such I chose all bathroom fittings from Caroma Dorf. The only exception is the vanities, which are wall hung units.

One issue that has proved vexing is the location of floor wastes, especially in the ensuite. It is all very well to decide where you would like it located (as I had) but then the reality of making the floor

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fall work can be the undoing of all your wonderful ideas. This was one of those occasions when I was very grateful for the fact that we are building on piers – nothing needs to be ‘cast in concrete’ right from the beginning, and if you change your mind then all you have to do is plug one hole and make another one!

The solar hot water system has been installed, which is a Hills evacuated tube system with an electric booster. The initial plan had been to have it gas boosted, but we decided that the additional \$1000 cost would be better utilised by increasing the solar power system capacity – especially due to the fact that we don't anticipate having to switch the booster on very often.

Finishing starts

Shane Price, a local plasterer, was approached to do the internal plastering. Shane's best advert is his own home, which he has been meticulously renovating over the past 18 months. On the main road into the area, and with his sign in large letters on the fence, it is the best work in progress example any tradesman could have! Along with his apprentice Daniel, they spent 10 days completing the plastering. They have

done a fantastically neat job, even with all the strange angles and square set corners.

I have not been able to locate a local, or even area-based, painter prepared to work with ‘green’ paints. I checked the Greenpainters website (www.greenpainters.com.au) and found one located on the southern fringes of Newcastle and another on the Central Coast. I am currently in negotiations for painting to start on 17 January, with an estimated timescale of seven days. We are having the painting done before any trim or flooring is installed, which will make it a lot easier. A little patching will be required at a later stage, but that is acceptable.

We had our hearts set on a solid timber floor, but the prices have made us have second thoughts. A fully installed secret nailed timber floor looks at costing anywhere from \$20,000 depending on the species chosen, and will also require total isolation of the house during the installation period – especially during the finishing stages. We have had a quote for a bamboo floating floor, which looks great, for around \$13,000. One problem with floating floors is that things like kitchen units and bedroom cupboards cannot be installed over it, as it needs to

be able to move – these units need to be in place beforehand. In our case, that is just not going to happen, as the kitchen is the last item on the agenda! A way around it is if we know EXACTLY where units will be placed, so that the flooring can be laid up and slightly under that area (allowing for the units on legs with a kickboard).

Christmas ‘break’

While all the trades knocked off for the Christmas period, Keith and I have used the quiet time to catch up on jobs that we had assigned to ourselves. The garage bathroom has finally been tiled and can be used, with the added bonus of being able to say goodbye to the chemical site toilet. All the downpipes have been plumbed into the water tanks, which in turn have had the overflow directed to the absorption pit. Slate wall tiles have been laid in the entrance area and bad carpentry in this area has been replaced. Decking and retaining walls have been planned.

So, all in all, it has been a good year. The current target is to be in the house by the end of February, with the end of March being the absolute latest due to visitors due in early April. Nothing like a deadline to get things done... ■

Follow progress of the build in more detail at <http://theownerbuilder.wordpress.com>

L-R: Very neat and thorough plastering job; slate tiles going on the walls of the entry area; the simple tasks are often the most rewarding!

