

EXTRA SPACE UNCOVERED DOWN UNDER

Ben Arnold found that including a basement as part of his new build added extra living space without risking the wrath of the planners.

“As a builder I like to try and challenge myself by doing something a bit different with every build, and when it came to our own family home, we knew a basement would be the chance to have a bit of fun,” explains Ben Arnold. Ben grew up just down the road from where he’s now built his home in Brierton, near Aylesbury, together with his wife, Lucy.

Ben and Lucy sold part of their large plot to pay

for their build and then knocked down the existing bungalow. “We hadn’t really considered a basement initially but we thought we’d be a bit cheeky with the planning and ask for one,” says Ben. The couple invited quotes to build the basement from several companies, including Glatthaar who they discovered online. They liked the construction system that the German company use and upon contact trusted them straight away.

“We were told exactly what we needed to do to prepare the site which was very overgrown,” says Ben who spent four weeks cutting down trees and clearing the site before starting the excavation.

“Unfortunately when Glatthaar inspected the site we discovered we hadn’t allowed enough space so things were delayed a bit whilst we dug out further,” Ben recalls, “It was our error but Glatthaar were very understanding and helpful in ensuring we got it right the second time around.”

Reinforced concrete for the basement was poured on top of a base prepared earlier, before precast wall panels supplied by Glatthaar were put into place by their German team using a 50 tonne crane. “The whole thing seemed to go like clockwork and took just three weeks from start to finish,” says Ben.

Bar and studio

With the basement completed, and acting as the foundation for the house, the excavation was backfilled so that work could start on the house itself.

The house build took almost a year and the Arnolds moved into their new five-bedroom home in December 2016. They are really pleased with their new home, which has five bedrooms, plenty of family living accommodation on the main floors, as well as a cinema room on the top floor. The basement provides additional space, with a further four rooms and a WC.

One room is currently used as a seating area and



another for storage, with the two main rooms used as a recording studio and a bar. As a musician, Ben always wanted a decent space for his drum kit and a place for the band to rehearse.

“The thing we love most about the basement is the silence and calm atmosphere but it’s also a place where Ben can play his drums as loudly as he likes without disturbing the rest of the household, which is fantastic,” laughs Lucy. “We’ve had a party down there which went on until 4am and neither of our boys were woken up once. The sound is completely absorbed by the concrete.”

Pictures: Installation of the Matthaar system (above) and the Arnolds basement (right) which provides useful extra space used as a bar and music studio.



WATERPROOFING A BASEMENT

By Nicholas Donnithorne

Waterproofing is a critical part of any basement project and is often the difference between success and failure. There are three grades of protection, which are based on the intended use of the basement. Home basements typically fall into Grade 3, requiring them to be a completely dry environment with adequate ventilation. This level of protection will ensure damp cannot penetrate the living area of the building. It is important to note that once a basement is watertight, any moisture created by occupancy needs removal by suitable ventilation, otherwise condensation can become an issue.

I always recommend consulting a Property Care Association qualified certificated surveyor in structural waterproofing (CSSW) for any new-build or conversion. Not only is it the best way to minimise risk, but they will help you to understand the costs of waterproofing which can be a significant proportion of the total costs. This is particularly true if the property requires structural support to accept a new basement or update an existing one.

Waterproofing types

In any below ground space

that falls into Grade 3 and/or high-risk environments, two different waterproofing systems are recommended, in-line with the NHBC’s standard.

There are three waterproofing systems defined by BS8102:2009 Code of Practice for protection of below ground structures against water from the ground.

TYPE A: This provides a barrier against groundwater and water ingress by surrounding the external walls, floor (and roof) with a waterproof material – literally creating a barrier between water and the structure. This can be applied either internally or externally to the concrete/masonry structure.

TYPE B: This relies upon the design and materials incorporated into the reinforced concrete structure itself. It is important that all joint detailing is robust and the concrete correctly compacted, as any leaks later are very difficult to fix.

TYPE C: The masonry structure provides the primary resistance to water ingress. These systems use a cavity allowing groundwater seepage to reach the drain, while internal surfaces are protected by a cavity drain membrane, with all joints and junctions correctly



lapped and sealed. It involves adequately disposing of water, either by gravity, or through a sump and pump to a suitable outlet. This must be designed with adequate access points for servicing and maintenance, and a one-way valve to prevent backflow.

It is also advisable to consider two pumps, a battery back-up and alarms, as the cost of flooding, should there be faults or power cuts, outweigh the expenditure and provide peace of mind.

Each of these types of waterproofing has its own

advantages and disadvantages. For example, while Type C waterproofing will require ongoing maintenance, it is easy to identify and fix any problems that might arise.

All systems share one common characteristic in that retro-fitting to a completed project is extremely expensive, disruptive and difficult, if not impossible in some cases, so planning your waterproofing requirements at the outset is always the best course of action.

The author is UK technical services manager of Rentokil Property Care.