

Sympathetic Design

The long, low design reflects the form of the old bungalow and single-storey piggy that it replaces. The combination of metal deck roofing, grey render and cedar cladding work together to create a design that is contemporary yet which empathises with its surroundings.

PRACTICALLY PERFECT

Jo and Charles Van Berkel have built a family home that, although designed primarily around their eldest son's disability, is also a stunning example of a contemporary architecture

Words: Natasha Brinsmead Photography: Jeremy Phillips



Project Notes

Homeowners
Jo and Charles Van Berkel
Project Contemporary self-build
Location Nr Harrogate, Yorkshire
Build time April 2014 – July 2015
Size 398m²
Plot cost £550,000
Build cost £700,000
Value Unknown

SUPPLIERS
Architect Transform Architects:
transformarchitects.com
Doors Howdens: howdens.com

Builders Bowers Construction:
01423 777 606
Building Materials
GH Brooks: 01423 503110
Building Materials Buildbase:
buildbase.co.uk
Kitchen John Longley Kitchens:
01226 248766
Sanitaryware: Platinum
Bathrooms: 01709 588822
Wood flooring: HG Flooring
(Harrogate): 07958 072593
Sliding doors and bifolds
Skipton Windows: 01756 799318 ➤

Exterior Design

The house has a distinctly agricultural form, reflecting the old farming outbuildings that once stood here. The large glazed opening and sliding doors lead out on to a level terrace, providing easy access for Kit (RIGHT WITH JO AND BROTHER OLIVER).





A Design For Life

It was important for the family that there were no barriers, visual or physical, within the main living space so that Kit can feel included in every aspect of life. On the downside, Jo admits that the full-height ceilings and open plan layout can cause sound issues. The couple specified engineered oak flooring throughout this space — as soft flooring is not practical for Kit's wheelchair. The downside however is the sound transfer.



Open Plan Living

Level thresholds have been incorporated throughout the house, both internally and between the sliding doors and terrace (ABOVE). The kitchen (LEFT) was designed by a local designer for “a fraction of the price of some of the kitchen showrooms,” says Jo. The worktops, which look just like polished concrete, are actually a German laminate product. While a space-saving staircase leads off the kitchen and leads to Jo’s office and a mezzanine.

“In the future, when Kit needs it, he can live here and be totally independent,” begins Jo Van Berkel, summing up the entire reason why she and partner Charles chose to self-build and the motivation behind every decision they made during their project. “We wanted the house to give Kit the most independence he can possibly have,” says Jo.

“We were living in a rented house before this,” explains Jo, whose eight-year-old son Kit has cerebral palsy and relies on a wheelchair to get around the majority of the time. “There was carpet in the old house – a nightmare with a wheelchair – and no special layout. We lived there until Kit was six, but we managed.

“It was near impossible to find an existing house that took all of Kit’s needs into account, and to buy and adapt a house would have been too expensive in this area,” continues Jo.

The answer to their problem came in the form of a 3.24-acre plot on the outskirts of Harrogate in Yorkshire. An old four-bed bungalow with several outbuildings stood on site.

They met Martin Bell of Transform Architects at a Homebuilding & Renovating Show. Having told them, “I can design you a beautiful house that doesn’t look like a disability home,” Jo and Charles were confident Martin could deliver what they needed.

“I didn’t want a long house, and I wasn’t keen on a contemporary design either,” laughs Jo. “The new house is 88m long from end to end, so I obviously got talked round, but it also worked from a planning perspective.” Their new home is on a greenbelt plot, but Martin, Jo and Charles worked with the planners to come up with a design that suited everyone and secured planning first time around.

The single-storey design replaces the footprint of the old bungalow as well as the old piggery which formerly occupied the site. It has been constructed primarily using a timber frame, with a large steel frame forming the huge vaulted main living space.

Externally, the house uses a combination of materials that were chosen to work together with the local surroundings, including untreated cedar cladding and local Harrogate stone. The pairing of dark grey through-coloured render and the grey metal deck roofing, along with the black aluminium windows and doors, adds to the simplicity and contemporary appeal.

Internally, the layout has been designed with Kit’s needs in mind, although the open spaces

are appreciated by the whole family, including Jo and Charles’ younger son Oliver.

All the doorways in the house are wide enough for Kit’s wheelchair, and most of the doors can be controlled automatically. “The main circulation doors were bespoke widths (1,100mm wide) to accommodate Kit using his walking frame as he likes to manoeuvre all around his house without restricted access,” explains architect Martin Bell. “The corridors are minimum 1,850mm wide, which allows for an adult in a manual wheelchair to turn safely, reflecting some of the future-proofing we designed in as this is Kit’s house for life.”

At one end of the house, near the main kitchen/dining/living space, lies Kit’s bedroom with its adapted en suite and access to a playroom, with quarters for his carer adjacent. Just along from these rooms lie three further bedrooms, one with en suite and a quiet living space.

“It was important for Kit to feel included in everything,” adds Jo. “So the living space and kitchen are all open and his bedroom is close by – we didn’t want there to be any barriers for him.”

Kit’s bedroom, bathroom and the playroom that he shares with Oliver all feature specialist equipment that enhance the way the family can live in the house, including recessed ceiling tracks for hoists that mean Kit can easily move between these spaces. “I was adamant that the ceiling hoists could be sunk into the ceiling,” says Jo. “We are not hiding the disability, but this is a family home and we wanted the adaptations to be discreet and dignified.”

The house is heated via underfloor heating, powered by a biomass boiler, although Jo says that the house is so well insulated that they rarely need it on. “It is really important for Kit that the house is at a nice even temperature as his mobility problems mean he can suffer from the cold,” explains Jo.

In keeping with both the Van Berkel’s as well as Martin Bell’s feeling that this should be a house that need not look like it had been designed solely for adapted living, the interior spaces are full of light, striking architectural features and huge sliding doors and picture windows that have been positioned to make the most of the stunning views.

“I wasn’t expecting the ‘wow’ that this house offers,” says Jo. “The space and tranquillity that we have, only two miles from Harrogate is amazing.”



Family-friendly Bedroom

Oliver's bedroom (ABOVE) benefits from stunning views thanks to full-height windows.



Stylishly Adapted

Kit's bathroom (LEFT) features recessed ceiling tracks to which hoists can be fitted, a 'high/low' bath and sensor taps, as well as non-slip floor tiles. "The water pressure here was awful," says Jo. "We had to install a reservoir with a huge pump for around £4,000 in order to get water around the house. Kit's bath is so big that it has its own tank!"



Stylish Interiors

All of the interior design was carried out by Jo – the family was keen that although this was a self-build that primarily focused on the practicalities of Kit’s disability, the finished house would still be stylish and comfortable to live in.

The Playroom

Kit and Oliver’s playroom (BOTTOM) features sliding doors to maximise space. Jo had to be creative with furniture in this room as there are doors and full-height windows on three of the walls.



Architect’s View: Martin Bell, Transform Architects

“Our main aim throughout was to deliver Kit a home that integrates all the family, provides flexible space, and makes the best use of all aspects of the site and its surroundings. This was delivered through an uplifting architectural design, creating a large open plan central space, having large windows taking in the views on the site, having a technology-based infrastructure to allow future changes to the use of the house as Kit gets older, and allowing for the seamless integration of Kit, his family, his care team and visitors in day-to-day life.

“Understanding Jo and Charles’ requirements and understanding the supporting infrastructure, for example the care team, medical team, on-site staffing requirements, and so on, was a huge part of the brief.

“The site is 3.04 acres in total and had an existing bungalow that was 154m² in size and an outbuilding that was 348m² – and it sits within the greenbelt. The rules on greenbelt are that you can only extend 50 per cent of the volume of the original house. This house is 400m² – 2.66 times bigger than the existing – so we needed to demonstrate special circumstances to justify the increase in size. We were given trade-off against the volume of the outbuilding, which was reduced, making the overall area developed (main house and outbuilding) on the site only 3m² bigger than the existing.

“The existing outbuilding was sitting on an asbestos base under its concrete slab, this cost £9,000 to remove. An due to the rural location, the electricity is supplied via a transformer outside the site boundary. Requirements for the site were more than the old bungalow so we had to upgrade at a cost of over £9,500.” 



Part P of the Building Regulations already state that sockets, switches and electrical outlets should be at between 1,350mm and 1,400mm high

An accessible home means different things to different people. For some, it means a home that will adapt with them as their needs change over time – often referred to as a ‘forever home’. For others it means a home that can provide a dignified and practical way of living suited to the needs of a wheelchair user or for another form of special needs. Here we address some of the key features of an accessible home.

Kitchens

Important areas to consider are worktop heights, lowered sinks, front and back taps, ‘rise and fall’ worktops and hobs, and preparation areas with space beneath for wheelchair access. Useful built-in features for anyone looking for a forever home are also widely available and include pull-out worktops beneath eye-level ovens, push-click operated kitchen units and remote control extractor hoods.

Thankfully, it is not just specialist companies that offer these kitchens. Companies such as Howdens and Magnet Trade offer all their kitchen ranges as ‘Inclusive Kitchens’.

Bathrooms

An accessible bathroom should be large enough for a wheelchair to turn easily (considered to be a 1,500mm turning circle) and an accessible shower is recommended. Wall-hung sanitaryware is a must, while the height at which it is set is crucial too.

As well as having a level threshold between the flooring and shower tray of a walk-in shower, a shower seat, grab handles

and digital or automatic shower controls make life easier. Even if you do not don’t install these measures now, ensure you reinforce walls and ceilings to take the extra weight in the future.

Those building a home for life should ensure that the downstairs WC is large enough and has the adequate drainage to be adapted into a shower room should the need arise.

Circulation Space

All doorways should be accessible for wheelchair users. Doorways with a clear opening of 750mm (more where hallways are narrower) and a minimum hall width of 900mm are advised. The Lifetime Homes Criteria advise that there should be a 1,500mm turning circle or 1,700x1,400mm ellipse in living and dining areas and that staircases should be a minimum of 850mm wide.

For external doors, a level threshold is desirable, although if not possible, a slope that does not exceed 15° towards the exterior surface is acceptable.

Practical Layouts

Keep main living spaces open plan. Not only will this make

it easier for a wheelchair user to navigate the layout, but it also means a sense of inclusion for everyone in the household. A lifetime home should have provision for a ground floor master bedroom with facilities, and potentially space for a live-in carer too.

Heating

Underfloor heating provides a constant, even heat often required by those with mobility restrictions. It is also important to make the most of solar gain when building for the future, ensuring plenty of natural light for a sense of wellbeing as well as a source of passive solar heating. **H**

Disabled Facilities Grant

There are grants available for those self-building a home that will be inhabited by a disabled person. How much you will get depends on your household income, although for disabled children under 18 there are grants available without their parents’ income being taken into account.

The Knowledge SELF-BUILDING AN ACCESSIBLE HOME



Lifetime Homes Standard

The Lifetime Homes Standard was developed in the early 1990s to address concerns about how inaccessible and inconvenient many homes were for large sections of the population. The Standard is made up of 16 design criteria that can be applied to new homes at a minimal cost and now forms a national standard that has been laid out as Part M (Category 2) of the Building Regulations. The criteria cover aspects of design including level access, door widths, circulation spaces and window heights and form a useful guide for anyone building with future needs in mind. You can view them at lifetimehomes.org.uk.