



# BASEMENT CONVERSIONS

Converting or extending your basement will provide a valuable living area without changing the exterior or losing any of your garden space, says **Sophie Hoyland**

If you want to build an extension, but your garden is too small to allow for one and your loft is unsuitable for conversion, don't forget to consider the area underneath your home.

Excavating below ground to create a basement can transform wasted space into a useable home entertainment room, a games area, gym or utility room. It's even possible to use underground space for habitable bedrooms, as long as occupants are happy to have lightwells in place of windows. But how do you know if your home is suited to this type of conversion? Follow our basic guide and you'll be well on your way to creating a usable basement.

## What type of home is suitable?

Basement conversions are most appropriate for terraced or semi-detached houses in the city, where lack of space prevents a conventional extension. Ideally your house will already have an existing cellar or basement. If the space has limited headroom the floor can be lowered.

"If you don't have a cellar, a retro-fit basement can be built but it will involve digging out the area, which can be time-consuming and costly," says architect Julian Owen. "You need to consider your budget and assess whether the need for space outweighs the high costs, or whether it's better to move and buy a bigger home."

## Planning issues

The planning rules surrounding converting basement can be confusing. Permitted development (PD) rights will allow a certain scale of addition to a house before a formal application is required. However, the planning rules related to building extensions don't currently mention anything about basements – just that the creation of living space in basements is evolving and currently under review. Some local authorities take this to mean that new basements are not covered by PD rights and so a formal application has to be made, whereas other councils will allow a new basement to be built under PD rights. "I always advise my



## Case study: Basement conversion in Barnes, London

The owners of a semi-detached Edwardian property in Barnes wanted to convert the existing small cellar to the rear of their house into a large living space with a study, utility and shower room. They enlisted The London Basement Company to come up with a design.

One of the client's main requirements was to fill the room with natural light. The solution was to install a deep lightwell across the width of the property. There are also bi-folding doors at the side of the room that connect to stairs leading up into the garden. In addition, the existing bay window at the front of the house continues down into the basement with a lightwell covered by a grille with an escape hatch.

The conversion was carried out by digging down in the front garden to install the necessary supports and excavating and underpinning below the property. Fortunately, the owners were able to continue living in the dwelling for the duration of works.

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for more details on the project and The London Basement Company







### Lighting

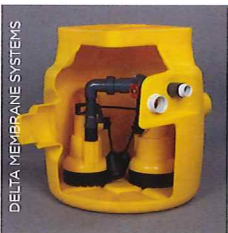
To avoid creating an uninviting space, you need to come up with a successful strategy to introduce natural light.

A Sunpipe is a polycarbonate cover sitting on top of a roof or on an external wall. It's placed over an aluminium tube which runs down through your house into your basement. Natural light runs down the tube, illuminating the room.



### Build method

Insulating concrete formwork (ICF) can be used on retrofits, but is most common on new builds. Instead of heavy formwork, Logix blocks are light and easy to work with, insulation is already built in, and you can build up to 3m high before concreting, so the build timetable can be a quicker than other construction methods.



### Sump pump

This piece of kit is sunk below the basement floor to an appropriate depth and used to pump

any water collected in a basement waterproofing system away from the house and basement, to help avoid flooding. Models with a built-in back-up pump provide security should the main one fail. The downside is that they can be noisy and will require regular maintenance.



### Fire escape

Because of the risk that a single stairway may be blocked by smoke from a fire in the basement, Building Regulations state that a basement containing any habitable room

must provide an escape route. Either an external door or window suitable for egress from the basement or a protected stairway leading to a final exit will suffice.

clients to talk to their local authority for guidance on local policy to work out what can and can't be built," says Julian. "Make sure that what is agreed is put in writing. It helps avoid problems at a later date."

## Building Regulations

Building Regulations approval will be needed for a new basement and for any substantial upgrade of an existing cellar. Some of the key areas you'll need to consider are fire escape routes, drainage, ventilation, ceiling height and services.

Building Regs state that if the basement is to be used for habitable purposes, an external door or window suitable for egress should be provided with an openable area of nothing less than 0.33m<sup>2</sup> and measuring at least 450mm x 450mm. A staircase leading from the basement to a final exit may also be required, depending on how the space is used. Stairs leading down to the basement need to have a pitch of no more than 42° and a headroom of no less than 2m. Suitable handrails are required and balustrading with a gap no greater than 100mm is required between each spindle.

You also need to consider the Party Wall Act 1996 if other properties adjoin yours and you share walls. This means you'll need permission from your neighbours before work commences. You'll need to hire a surveyor to check for subsidence and any damage to foundations for your property and your neighbours', too.

"The major factor to consider, though, is waterproofing," says Julian. As basements and cellars often lie below the water table, they are susceptible to the pressure of ground water building up against the walls and floor, so you need to ensure that your structure is watertight. Basement tanking is a traditional form of waterproofing your basement. "It's basically an impervious concrete lining that forms a tank around the outside of your basement walls, which in theory stops water ingress," says Julian. The downside to this method is that cracks in your walls can develop over time, especially if your house is built on badly drained ground, such as clay, because water can build up around the walls and create pressure causing them to break.

"Another way to waterproof your basement is to install a water management system that controls the water when it comes into the basement, rather than attempting to block it completely," says Julian. The benefit of this option is that water pressure won't build up. It's usually formed of a drainage membrane lining the internal perimeter of the basement (creating a double skin). Water collects in a channel beneath the membrane and is diverted away from the building by a sump pump.

## Design options

Unless you're building an annexe, you need to ensure the conversion blends in and feels a part of the main house, rather than just an

add on. Continuing the standard of interiors and lighting used in the rest of the property will help the basement to blend in. "If you can't get natural daylight into the basement, you need to install a really good artificial lighting scheme," says Julian. "Lighting from different manufacturers will vary in quality, so always test out products in your cellar to see how it looks before you buy."

## Who should you employ?

Converting a basement is specialist work, so you need to employ experienced professionals to get the job done right. You can commission an architect to draw up the plans, recommend contractors and oversee the project. Or if you want a more hands-on role, find the builder yourself and project manage the scheme.

Alternatively, you might find it more suitable to employ a basement conversion company to handle the entire project. They can do everything from designing the layout, applying for planning permission on your behalf, to completing the entire build and interior decoration.

## Average costs

The London Basement company suggest the cost guidelines in the table, below. All figures given will vary depending on size, location, type and age of property concerned.

TASK COVERED	COST
Conversion of an existing cellar (per m <sup>2</sup> )	£1,700 - £2,200
Digging new basement beneath the garden (including site set up, excavation, underpinning, re-enforced concrete, piling works, drainage works, waterproofing including sump and foul water pumps, laying solid floor and screed finish) (per m <sup>2</sup> )	£3,000
Engineer's fee	£4,000 - £7,000
Planning application (where required)	£2,000 - £5,000
Building Regulations application	£1,000 - £2,000
Party Wall agreements (where required)	£3,000 - £5,000

## Contacts

**Basement Living** 0845 400 6666

[www.basement-living.co.uk](http://www.basement-living.co.uk)

**Delta Membrane Systems** 01992 523523

**Julian Owen Architects** 0115 922 9831

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**Logix** 0845 607 6958 [www.logix.uk.com](http://www.logix.uk.com)

**Monodraught** 01494 897700 [www.monodraught.com](http://www.monodraught.com)

**The Basement Information Centre** 01276 33155

[www.basements.org.uk](http://www.basements.org.uk)

**The London Basement Company** 020 8847 9449

[www.londonbasement.co.uk](http://www.londonbasement.co.uk)