



# HOUSEHOLDERS GUIDE TO EXTENDING YOUR HOME LIVERPOOL EDITION





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This publication is available as an E-book: [www.extendingyourhome.com/liverpool](http://www.extendingyourhome.com/liverpool)



# Introduction

## Background

Your home is a major long term investment and is likely to be your biggest asset. As your needs change over time your home will most likely need to be adapted to suite your circumstances.

Within England and Wales most construction work is covered by the Building Regulations. These are minimum technical standards set by the government and all but the most minor building work carried out must conform to these standards.

The standards cover many aspects of health and safety within buildings as well as energy consumption and accessibility. The Building Regulations are detailed technical standards set to ensure that the building stock within England and Wales is built to a reasonable standard and that it meets the needs of the population.

The Building Regulations are minimum standards, they do not cover quality of workmanship beyond that required to ensure the basic safe construction of the building. It is possible therefore that a building which complies with the Building Regulations may not meet the finishing standards that you require and you should be mindful of this when you are entering into contractual arrangements with your builder.

There is a legal requirement for either the builder or the owner of the building work to make an appropriate Building Regulations Application and to comply with the Building Regulations. Failure to do so may result in prosecution through the Magistrates' Court.

## Purpose of this Guide

This guide will take you through the Building Control process. It is not a substitute for professional advice but it aims to show how your project will be affected by the Building Regulations. The guide is divided into chapters that contain advice about typical building projects and it is hoped that when you have read the guide you will have a better understanding of what is involved in a domestic building project.

Domestic projects that may require a Building Regulations application include:-

- Extensions
- Garage conversions

- Loft conversions
- Cellar conversions
- Structural alterations e.g. removing load bearing walls, underpinning
- Alterations to drainage, hot water or heating systems
- New or replacement windows
- Electrical work
- Replacement roof coverings
- Cavity wall insulation
- New garages
- New conservatories/porches (although dependent on floor area etc)
- Renovation of thermal elements such as walls, roofs and floors e.g. rendering or re-rendering walls, replacing ground floors, replastering external walls or ceilings.

If you are considering a building project and you are unsure as to whether it will require Building Regulations consent please feel free to contact us and we will be happy to advise you.

## The Building Regulations Process

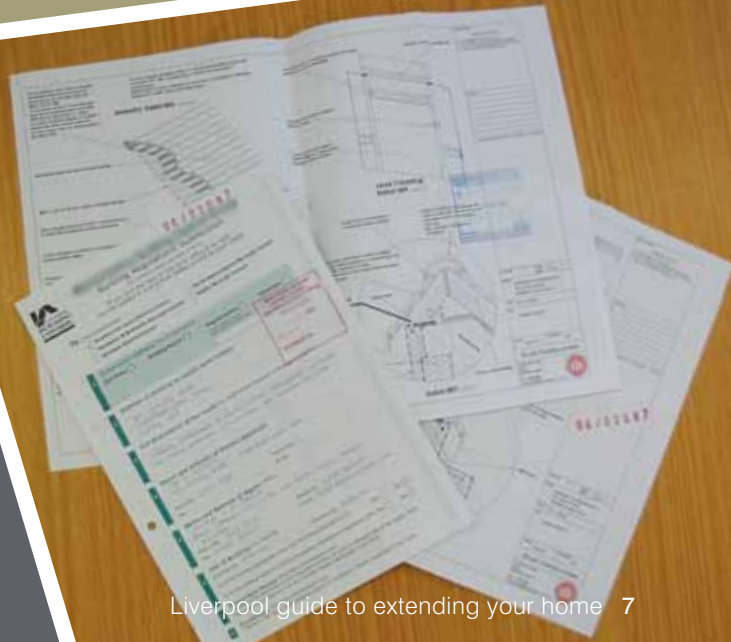
If your project needs Building Regulations consent you will need to make a Building Regulations application.

## How to Proceed

Unless you are experienced in construction you will need to get some professional advice. There are a number of ways of obtaining this:

1. **Appointing an architect/technician or building surveyor:** these will prepare drawings and designs for your proposal, obtain the necessary approvals and if required they will also help you to find a suitable builder and manage the project for you.

WHATEVER TYPE OF PROJECT THAT YOU ARE UNDERTAKING WE WILL ARRANGE TO CARRY OUT A SERIES OF INSPECTIONS OF THE WORK IN PROGRESS.



2. **Appointing a design & build company:** these companies offer a one-stop shop for construction projects, their design department will prepare the necessary drawings and obtain the necessary approvals and their construction departments will translate these drawings into reality.
3. **Using an experienced builder:** some builders have experience in carrying out domestic projects and may be able to offer you a package similar to the design & build companies.

## Making a Building Regulations Application

There are two ways of making a Building Regulations application:-

### Full Plans Application

This is often thought of as the traditional way of applying for Building Regulations Approval. The building designer will draw up detailed plans and supporting information for the proposed scheme and will send them to us together with an application form and the necessary charge. Building Control then check the details and following any necessary consultations and liaisons with the building designer a Building Regulations Approval Notice will be issued. An approved plan can be helpful when obtaining quotes for the works, as all contractors will be pricing the same works. This should reduce unexpected 'extras' in the final costs.

Work can start any time after the application has been received although it is wise to wait until the scheme has had its initial check under the Building Regulations.

Our team of Building Control surveyors will liaise with your builder and inspect the work in progress on site. When the project is satisfactorily completed a Building Regulations Completion Certificate will be issued showing that the project has been independently inspected and that it complied with the Building Regulations.

## Building Notice Application

This system is best suited to small projects carried out by a competent builder and is not recommended unless your builder and designer are very experienced in the type of project that you are undertaking and are fully aware of the requirements of the Building Regulations. Under this scheme no formal Approval of plans is issued and work is inspected on site as it progresses to check that it is being done in accordance with Building regulations.

To use the Building Notice process you or your agent will need to submit a Building Notice application form together with a site location plan and the required charge. Work can commence 48 hours after the notice has been accepted.

When work commences one of our surveyors will meet with your builder to discuss your project, to agree when the work will need to be inspected and to establish whether any further information will be required e.g. structural calculations or drawings.

When the project is satisfactorily completed a Building Regulations Completion Certificate will be issued showing that the project has been independently inspected and that it complied with the Building Regulations.

## Regularisation Applications (Work carried out after 11th November 1985)

In situations where work has either already commenced or has been completed without the benefit of a Building Regulation application, you can make a retrospective application known as a Regularisation application.

A surveyor will assess the work carried out and inform you if its is either satisfactory or requires amendment.

When the project is satisfactorily completed a Building Regulations Completion Certificate will be issued showing that the project has

been independently inspected and that it complied with the Building Regulations.

The forms for making a Building Regulations application can be obtained by telephoning or calling into The Liverpool City Council Building Control Team, or can be downloaded from The Liverpool City Council website.

## Building Regulation Charges

Each local council set their own Building Regulations charges and Liverpool City Council have standard charges for most domestic building projects such as extensions and loft conversions etc. Details of these charges can be found on Liverpool City Council website and you should ensure that the correct charge accompanies your application upon deposit. With the exception of Regularisation applications, Building Regulation charges are subject to VAT. However, Regularisation applications are subject to an additional charge of 20%.

## Self Certification

To help you to gain Building Regulations approval more easily the government have allowed certain trade bodies to self certify their members' work and to issue Building Regulations certificates. Currently the bodies which can issue these certificates are listed on the government Department for Communities and Local Government website via the following link:

[www.gov.uk/competent-person-scheme-current-schemes-and-how-schemes-are-authorised#current-schemes](http://www.gov.uk/competent-person-scheme-current-schemes-and-how-schemes-are-authorised#current-schemes)

## Tips for using Self Certified Contractors

1. Always ensure the contractor is registered for the work they are undertaking, eg. If you are having a new heating system installed ensure the contractor is a registered installer not a service engineer.

2. Always ensure that at the end of the job the contractor issues you with a Certificate confirming that the work complies with the Building Regulations, you may need this when you come to sell your property.
3. If you are in any doubt about anything either contact the relevant trade association or contact your local Building Control office for advice.

## Other Permissions you may Require

**Planning Permission:** most developments need planning permission. Development includes 'building, mining, engineering, or other operations in, on, over or under land or the making of a material change in the use of any land or buildings. There are some minor works, such as a repair to a building which may not need consent.

Internal works that do not affect the outside of a building usually do not need planning permission, but if the property is a listed building then listed building consent, and/or planning permission could be needed even for minor work.

**Permitted Development:** you can make certain types of minor changes without needing to apply for planning permission. These are called "permitted development rights" made under the Town and Country Planning (General Permitted Development) Order.

In some areas permitted development rights are more restricted. For example if you live in a Conservation Area, you will need to apply for planning permission for certain types of work which do not need an application in other areas. Some developments may also have had permitted development rights removed by an Article 4 direction or planning condition.

There are also different requirements if the property is a listed building, and therefore you should contact our Planning team if you are unsure.

Please visit the Planning Portal website ([www.planningportal.gov.uk](http://www.planningportal.gov.uk)) to view the planning interactive house and interactive terrace guide, which will make clear whether the works you are proposing to do are permitted development. The interactive house can also be viewed to determine if building regulations approval is needed.

**Pre-Application Planning Advice:** we welcome and encourage discussions before you submit your application. We want to provide good quality advice to developers and their agents before making a formal planning application. This will help speed up the development process and means that people are less likely to put in applications which are unacceptable.

There are a number of benefits of seeking pre application advice:

- understanding how our policies will be applied to your development
- identifying the need for specialist input at an early stage e.g. for listed buildings, transportation, trees, landscape, noise, health, contaminated land or archaeology
- guiding the preparation of proposals for formal submission, which, if you follow our advice, should be handled more quickly
- reducing the time your professional advisors spend in working up the proposals indicating those proposals that are completely unacceptable, so saving you the cost of pursuing a formal application

Details of how to make an application for pre-application advice can be found on your local authority website.

**Planning Applications and people with a disability:** in most cases, if the application submitted is for the benefit of a disabled person, planning fees are waived where the proposal is to alter or extend an existing dwelling for a disabled person who is living or intending to live at the application site. The exemption is intended to give disabled

people a safe, dignified and comfortable home life, including safe and convenient access to their homes.

**Party Wall Act:** if your proposal affects a Party Wall or if you will need to excavate foundations close to your neighbour's house you may need to give them notice under the Party Wall Act. This is a Civil Act and your local Council do not have any enforcing power under the Act. A guidance document can be downloaded from: <http://webarchive.nationalarchives.gov.uk/20120919132719/www.communities.gov.uk/documents/planningandbuilding/pdf/133214.pdf>

## The Inspection Process

Whatever type of project you are undertaking we will arrange to carry out a series of inspections of the work in progress. Whilst we cannot be on site all of the time the inspections will be carried out at key stages so that we can be reasonably sure that the work carried out complies with the Building Regulations.

We will tailor the inspections carried out to suit your individual project and we will generally arrange these inspections with your builder. If during the project you have any concerns, if you want something specific inspecting, or if you would like to meet to discuss any issues please contact us and we will make the necessary arrangements.

## Completion Certificates

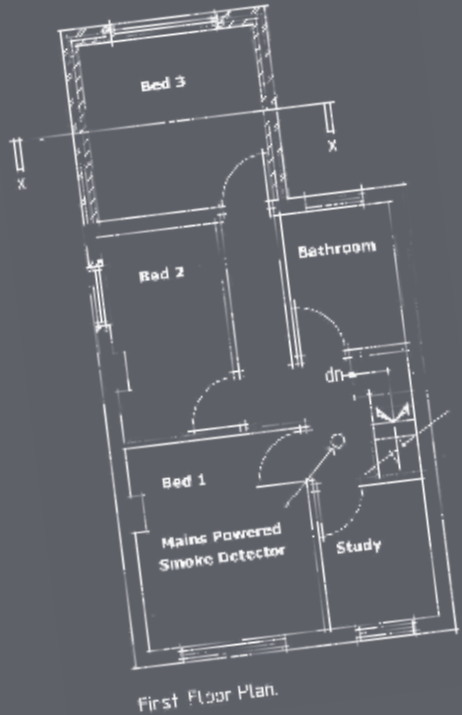
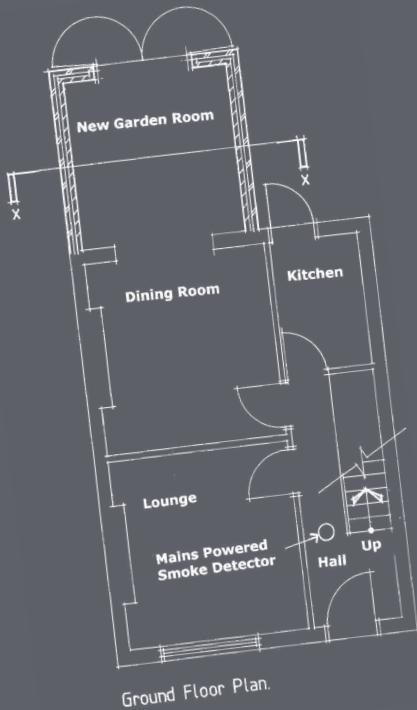
When your project has been satisfactorily completed under the Building Regulations we will issue a Completion Certificate. This is a legal document that you will need if you want to sell your house, you may also need it for re-mortgaging or insurance purposes. Please ensure that we are called in to carry out our final inspection at the end of the project to ensure that your Completion Certificate is issued.

It is often advantageous to obtain your completion certificate prior to issuing final payment to your contractor.

# Domestic Extensions

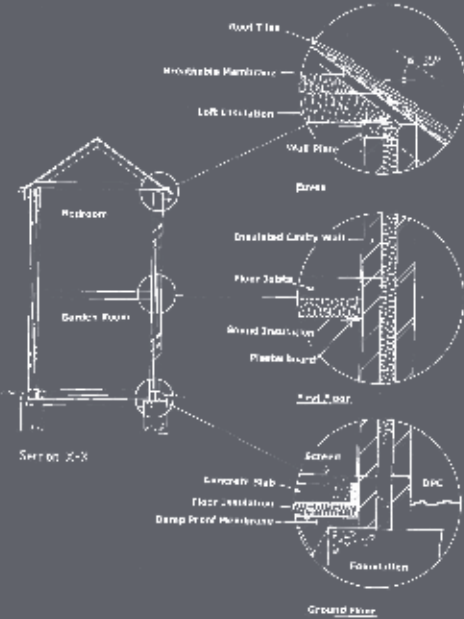
**Introduction:** if you need more space and you do not want to move house you may wish to consider extending your home. Your home is probably your most valuable asset so it is important that your extension project is carefully planned. This guide is not a substitute for professional advice but has been written to provide you with useful information about how the Building Regulations will affect your extension.

**Suitability:** most houses are suitable for extending, providing that you have the space. When you are thinking about whether your house is suitable for extending you might like to consider:





Certain ground conditions will affect the ground floor detail



1. How will you access your extension?
2. What effect will your extension have on the circulation in and around your home?
3. What effect will your extension have on your existing house and garden? Will it block out light from existing rooms or make some rooms unusable? Will you still be able to get into your garden?
4. Is your existing house built from an unusual construction for example prefabricated panels, concrete frame etc?

If you can resolve all of these issues then your house may well be suitable for extending.

**How to Proceed:** extensions are complex projects and unless you are experienced in construction you will need to get some professional advice. The introduction contained advice about obtaining this and with this in place we can now consider some of the technical issues that affect domestic extensions.

## Technical Issues

**Foundations:** the foundations are one of the most important parts of your extension and often one of the most expensive. For domestic extensions trenchfill foundations are the most common, these should be taken down into firm natural ground and should generally be a minimum of 0.75m deep (although exact depths are site dependent). In areas with clay subsoil trees up to 20m away can have a significant effect on foundations which generally means that they need to be deeper, sometimes as deep as 2.5m. If you are concerned about any trees please get in touch with us and we will give you some advice regarding foundation depths.

**Ground Floor:** the ground floor of your extension performs a number of tasks: it must support the floor loading, keep out damp and provide thermal insulation. Generally a ground floor is a multilayer





YOUR HOME IS PROBABLY YOUR MOST VALUABLE ASSET SO IT IS IMPORTANT THAT YOUR EXTENSION PROJECT IS CAREFULLY PLANNED.

structure, the top soil under the extension floor area is removed and a layer of compacted stone is placed over the site. This is blinded with sand and a layer of 1200g polythene is then placed over the sand and lapped in with the damp proof course in the wall. A layer of insulation is then provided and a concrete slab at least 100mm thick is poured over the insulation (some insulation may require an additional membrane). The concrete can either be float finished or a screed applied at a later date. On some sites where the ground floor is significantly higher than external ground level or where the site has been affected by trees, a suspended floor may be needed, these can be formed from either concrete or timber and if you need any guidance regarding suspended floors, please get in touch with us for advice.

**Walls:** the walls of your extension must carry the loads from the floors and roof, keep the weather out of the extension and provide thermal insulation. Cavity walls are commonly used for domestic extensions. These are made up from bricks and blocks and the cavity is filled with insulation as the work

proceeds. When building walls remember to ensure that you have adequate buttressing at the corner of your extension, lintels over all openings, wall ties to join the leaves of your cavity wall together and a suitable damp proof course. If you are building up against your neighbour's house you will also need to ensure that your wall provides adequate sound resistance.

**First Floor:** two storey extensions will require a first floor, these are generally made up from timber floor joists which span between load bearing walls, they support floor boarding above and plasterboard is then fixed to the underside of the joists to provide a ceiling finish and fire resistance. The size of the floor joists will depend on the span so please contact us for advice on the joist size required. The floor will also need to include sound insulation and in domestic extensions, 100mm of sound deadening mineral wool placed between the joists is generally sufficient.

**The Roof Structure:** the roof of your extension will need to be designed to keep out the rain and snow and may need to cope with some light loft storage loading.

Generally two types of roof are used for domestic extensions:-

**Flat Roofs:** this is the simplest type of roof structure and for some extensions, generally single storey, a flat roof can provide a practical and economic solution.

Timber joists are used to span between the loadbearing walls and beams and these are covered with a plywood decking laid on furring strips to provide a fall. Thermal insulation is then placed over the roof and it is generally finished with a waterproof covering of three layers of bonded roofing felt. Critical things to consider in this type of roof are the size and support of the roof joists and the way that the roof will be insulated and, if necessary, ventilated.

**Pitched Roofs:** if a flat roof is not suitable for your needs you are likely to require a pitched roof. These are generally more substantial structures that are finished with roof tiles or slates. The supporting structure of the roof can be formed in two ways:

**1. Trussed Rafter Roofs:** these are quick to construct, measurements are taken from site and roof trusses are made up in a factory, they are then delivered to site ready for installation. Each roof is individually designed by the roof truss

manufacturer using specialist computer software and the carpenter's time on site can be significantly reduced.

**2. Traditional Roofs:**

A carpenter cuts a traditional roof on site. The roof structure will generally be designed by an architect or structural engineer and the timber is then delivered to site where the carpenter will set out the roof and cut each of the individual timbers to size before installing them.

This type of roof offers the greatest flexibility in roof shape and is often the only way of roofing complicated extensions especially where the new roof must join onto an existing structure.

The size of the timbers and supporting beams required in a roof will depend on the loadings and spans involved in each case, complex roofs will require a structural engineer's design but our Building Control Surveyors will be happy to assist your builder in designing simple roof structures.

Once the support is in place the roof must be covered to provide weather protection, pitched roofs are generally finished with tiles or slates with a layer of roofing membrane or felt under them. The tiles are supported by the rafters via a series of timber battens.



To provide adequate weather resistance the tiles overlap each other and they must have an adequate pitch. For extensions it is common to use tiles or slates that match the main house although this is not always possible if the extension roof has a very low pitch. Our Building Control Surveyors will be happy to assist you with any enquiries that you have about roof finishes.

**Stairs:** if your extension has more than one storey you may need to install a staircase and careful design of this can be critical to the success of the extension. If a stair is installed it should be designed in accordance with the following guidance.

**Width:** there is no minimum width for stairs in the Building Regulations however they will need to be useable. Generally domestic stairs are 850–1000mm wide.

**Pitch:** the maximum pitch for the stair should not exceed 42 degrees.

**Rise and Going:** the maximum rise of each tread of a domestic stair should not exceed 220mm and the going should be at least 220mm.

**Headroom:** the clear headroom over the stair should be at least 2m.

**Handrails and Balustrades:** the stair should be provided with a handrail at least 900mm high and any exposed edges of

stairs or landings should be provided with balustrading at least 900mm high.

**Fire Protection and Means of Escape:** it is important that you consider fire precautions when you are designing your extension. The most dangerous fires generally occur at night when everyone is asleep and to give you awareness of a fire the Building Regulations suggest that mains operated smoke detectors should be installed on each floor of the house when it is extended.

To prevent people being trapped by a fire all rooms that do not open directly onto a hall and all first floor rooms should have a window or door that is large enough for people to escape through. If you are using a window as your secondary fire escape it should have a clear opening of at least 0.33m<sup>2</sup> at least 450mm wide with a sill height of between 800 and 1100mm above floor level.

Fire is a very dangerous thing and careful design and planning are required to ensure that the risks it poses are minimised.

**Ventilation:** fresh air is essential to healthy living and the Building Regulations require your extension to have adequate ventilation, generally an opening window with a 'trickle vent' is all that is required, the window should have an openable area equivalent to at least 1/20th of the floor area of the room that it is ventilating. The trickle vent is a small slot type



vent that you can leave open to allow some background ventilation without the need to open the window, generally these are found in the top of the window frame. If your extension contains a kitchen, utility room or bathroom you will need to provide an extract fan in these areas and your Building Control Surveyor will be pleased to provide you with more detailed advice when they call on site.

**Drainage:** it is usually possible to connect drainage from extensions into the existing drainage systems. Drainage can be divided into two types, foul water and rainwater and generally speaking the drainage systems should be kept separate. Foul drainage is generally discharged through a series of pipes and manholes to a public sewer although some properties will have septic tanks or private sewage treatment plants. When planning your extension look for manholes and try and find out where your drains are running so that you can work out how any new drains will connect to them. It is important that all new underground drain pipes have a diameter of at least 100mm so that they do not block or freeze, are watertight and have manholes or access points so that any blockages can be cleared. Where possible rainwater drainage should not be discharged to foul sewers as this can cause problems with flooding, the preferred solutions are to discharge rainwater to soakaways located in your garden at least 5m from any building or to storm water sewers if they are available.

**Heating:** most extensions will need to be heated and you will need to check with your heating engineer that your existing system has sufficient capacity to heat your extended house. You may also need to move your boiler, if for example, your extension will cover the flue outlet. Any alterations to your heating system should be carried out by a suitably qualified plumber or heating engineer registered with Gas Safe for gas fired boilers or OFTEC for oil fired boilers. Any new boilers will need to be highly efficient condensing boilers and the new radiators that you install in your extension should be fitted with thermostatic radiator

valves so that you can ensure that they use heat efficiently.

**Thermal Insulation:** rising fuel bills and CO<sub>2</sub> emissions are a major concern in today's environment and you will need to provide a high level of insulation within your extension. Your extension should provide an insulated envelope so that the amount of heat escaping is minimised. The roof, walls and floors of your extension should all include thermal insulation; walls generally have insulation placed within the cavity, roofs generally have insulation in the loft area and sheets of insulation can be placed beneath the concrete of your ground floor.

The building fabric should be constructed so that there are no reasonably avoidable thermal bridges in the insulation layers caused by gaps within the various elements, at the joints between elements and at the edge of elements such as those around window and door openings. Reasonable provision should also be made to reduce unwanted air leakage through the new envelope parts. Design details such as those set out in the Accredited Construction details as published and downloadable for free from the Planning Portal should be adopted.

<http://www.planningportal.gov.uk/buildingregulations/approveddocuments/part1/bcassociateddocuments9/acd>

Another major area where heat is lost from buildings is the windows and these require special attention: 24mm double glazing units incorporating low emissivity glass are generally required and, unless energy improvements are carried out in the existing house, the window area of your extension is limited by the Building Regulations to 25% of the floor area plus the area of any existing openings covered by the extension.

High levels of insulation can result in problems with condensation and care must be taken to ensure adequate ventilation is available to rooms and particularly in roof voids.

As well as insulating your extension you will need to consider the efficiency of any services you put into it. Low energy light

fittings should be used where possible and any new heating systems should work to high levels of efficiency and have suitable thermostats and controls. All new or altered building services, such as condensing boilers, should be appropriately commissioned in order to ensure their most efficient operation.

**Sound Insulation:** to reduce unwanted noise the walls and floor around bedrooms will need to be insulated to reduce sound transmission. This can generally be achieved by placing 100mm of sound deadening quilt in the floor void and in the partitions around the bedrooms.

**Electrical Installations:** as part of the Building Regulations process you will need to supply British Standard Test Certificates for most new electrical installations. When selecting your electrical contractor please ensure that they are competent to provide you with these test certificates as otherwise you are likely to incur additional costs for testing the circuits.

**Glazing:** to reduce the risk of people injuring themselves, glazing in and around doors and all glazing within 800mm of floor level (known as critical areas) should be either toughened or laminated glass or adequately guarded..

**Conclusion:** whereas a well designed and constructed extension is a definite asset to your home that can provide useful extra space and add value to your property, a poorly thought-out extension can reduce your property's value and in some cases compromise your safety and the structural integrity of your home. It is important to ensure that you plan your extension carefully and get the work carried out by an experienced contractor.

The Building Regulations exist to ensure that buildings are constructed to a reasonable standard; Building Control will be pleased to provide you with any further assistance that you require during the design and construction of your extension.

IT IS IMPORTANT TO ENSURE THAT YOU PLAN YOUR EXTENSION CAREFULLY AND GET THE WORK CARRIED OUT BY AN EXPERIENCED CONTRACTOR.

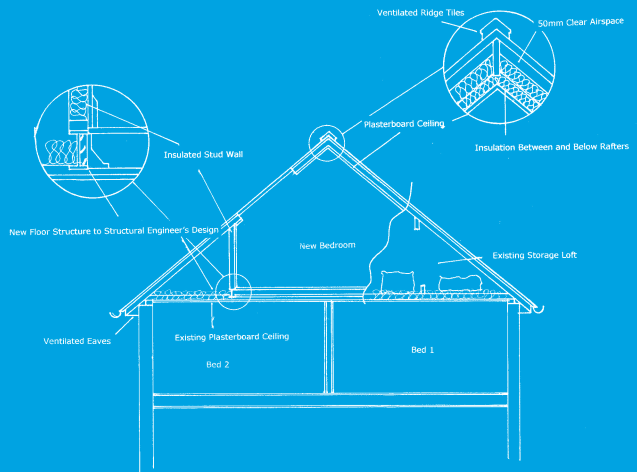


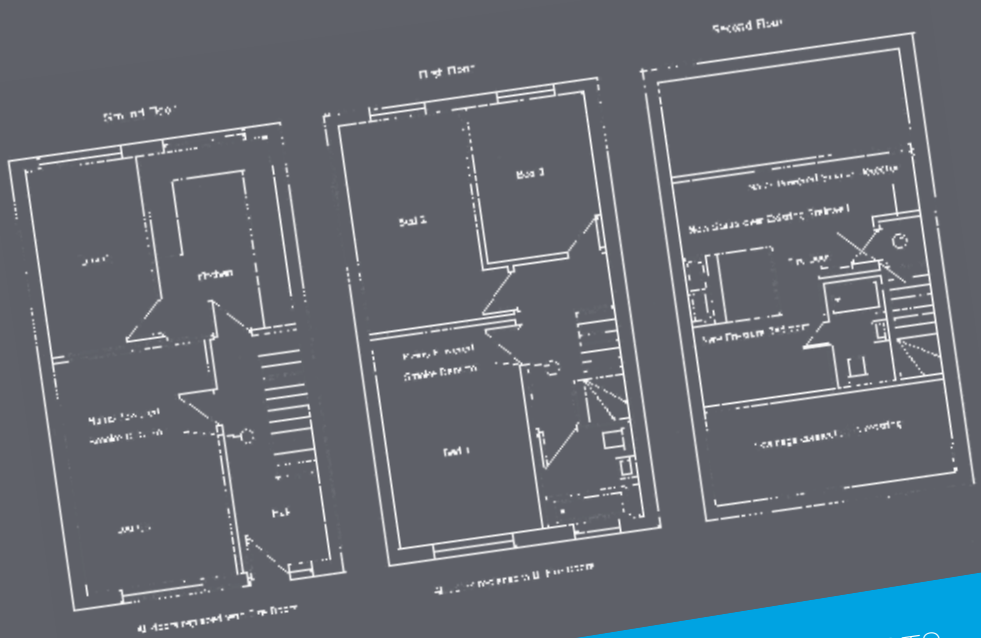
# Loft Conversions

**Introduction:** most houses have a large space under their roofs normally known as the loft or attic, this space is often under utilised and in some instances can offer an ideal opportunity for expanding your home. This guide has been written to provide you with useful information about how the Building Regulations will affect your loft conversion project.

**Suitability:** not all lofts are suitable for conversion and as a first step it is wise to go into your loft and carry out a brief survey before you get too far into the planning of your project. When carrying out your survey check:

- That there is enough height within your loft to stand comfortably, bearing in mind that your new floor is likely to be around 200mm higher than your existing ceiling joists.
- That the loft space is large enough to provide a useable room.
- That there aren't any chimneys or services passing through the loft space that will need moving.





...LOFT CONVERSIONS ARE COMPLEX PROJECTS AND UNLESS YOU ARE EXPERIENCED IN CONSTRUCTION YOU WILL NEED TO GET SOME PROFESSIONAL ADVICE.

- That your roof has felt under the tiles or is fully weathertight.

If the answer to all of these questions is 'Yes' then your loft may well be suitable for conversion.

**How to Proceed:** loft conversions are complex projects and unless you are experienced in construction you will need to get some professional advice. The introduction contained advice about obtaining this and with this in place we can now consider some of the technical issues that affect loft conversions.

## Technical Issues

**The Roof Structure:** the roof of your home is currently designed to keep out the rain and snow and to cope with some light loft storage loading. After a loft conversion your roof will have to cope with significantly

different loadings, a new floor structure will be required and it is likely that a number of the structural elements will need to be altered to allow for circulation within the room, roof windows etc. Roofs can generally be divided into two types.

**Trussed Rafter Roofs:** these have been common since the 1970s, and roofs of this type are difficult to convert. Roof trusses are complex pieces of engineering and they should not be altered without the advice of a structural engineer. When converting this type of roof it is common for a series of beams to be installed to provide support to the new floor and to strengthen the rafters, this allows the bracing sections of the trusses to be cut out to create a clear floor area.

**Traditional Roofs:** these are generally made up from a series of rafters and purlins



spanning between load bearing walls. These roofs are less complicated to convert than trussed rafter roofs, however, beams are often required to provide support to the new floor structure and the existing purlins and a structural engineer's design will be required for all but the simplest conversions.

When considering a loft conversion don't be tempted to simply board over your existing ceiling joists and rafters, this can adversely affect the value of your property and in some circumstances can cause overloading and endanger the structural stability of your home.

**Accessing your Loft Conversion:** if you want to convert your loft for habitable use you will need to install a staircase and careful design of this can be critical to the success of your conversion. If there is enough headroom it is often best to continue the stair in the existing stairwell as this saves space and gives a feeling of continuity within the home, alternatively part of a room will have to be partitioned off to accommodate the new staircase. Wherever the stair is installed it should be designed in accordance with the following guidance.

**Pitch:** the maximum pitch for the stair should not exceed 42 degrees.

**Rise and Going:** the maximum rise of each step of a domestic stair

should not exceed 220mm and the going should be at least 220mm.

**Headroom:** the clear headroom over the stair and landings should be at least 2m, for some loft conversions the Building Regulations allow a reduced headroom of 1.9m over the centre of the stair and 1.8m on the outside edge.

**Handrails and Balustrades:** the stair should be provided with a handrail at least 900mm high and any exposed edges of stairs or landings should be provided with balustrading at least 900mm high.

For loft conversions where space is very limited and only one room is created, a specialist alternating tread staircase can be used, these are steeper than standard stairs and can provide valuable space in some circumstances.

**Fire Protection and Means of Escape:** house fires can kill and fire precautions are a major concern of the Building Regulations. The most dangerous times for a fires to occur is at night when everyone is asleep. It is important that you install an appropriate fire detection system in order to provide early warning to give you and your family time and opportunity to escape. When converting your loft you will need to ensure that you have mains powered, interlinked smoke detectors in the hall/landing areas on every floor of your house.

**Two Storey Houses:** the Building Regulations requirements for fire precautions in two storey housing are quite simple as it is generally felt that if you couldn't get out down the stairs you could jump or be rescued from a first floor window. If you are converting the loft of a bungalow you will need to ensure that you have mains powered interlinked smoke detection at ground and first floor level and that all new habitable rooms at first floor level have an 'escape window'.

**Escape Windows:** as their name suggests, are windows that are large enough to allow people to escape or be rescued through them. They need to have a clear opening area of at least 0.33m<sup>2</sup> and a clear width of at least 450mm. The bottom of the opening should be no more than 1100mm above





...A WELL CONVERTED LOFT IS A DEFINITE ASSET TO YOUR HOME, IT CAN PROVIDE USEFUL EXTRA SPACE AND ADD VALUE TO YOUR PROPERTY.

floor level and they should allow people to escape to a place free from danger. Escape windows need to be fitted with escape hinges that allow the window to fully open. Some of the standard hinges fitted to Upvc windows do not achieve this so it is advisable to check this with your glazing supplier when you order your windows.

**Three Storey Houses:** due to the increased risk associated with escaping from higher floors, when you convert the loft of a house to create a third floor the Building Regulations require you to consider means of escape and fire protection in far greater detail. Mains operated smoke detection needs to be fitted to give you early warning of a fire and, because of the increased height escape windows are no longer viable, the only safe way out of the house is down the stairs. Therefore you will need to consider one of the following possible solutions:

- (i) Protected stair / escape route from new storey to a final exit – this will require the provision of fire doors to all habitable rooms or
- (ii) Partial protected stair / escape route from new storey to final exit (where there is an open plan ground floor) – this will require

fire doors to the upper storeys and a sprinkler system to the ground floor or

- (iii) Alternative stair / escape route – provision of an alternative internal or external escape stair or
- (iv) Fire Engineered approach – this normally requires the installation of a comprehensive, interlinked smoke detection system (which can be wireless). If this approach is adopted, a fire risk assessment will need to be carried out and you should discuss this with your local Building Control Team.

**Four Storey Houses:** if your house already has three storeys, loft conversions become more complicated. You are likely to need to install a sprinkler system or a second escape stair and the project will need specialist design. If you are considering one of these projects please contact us and we will be happy to provide you with more detailed advice.

Fire is very dangerous and careful design and planning is required to ensure that the risks it poses are minimised.

**Bathrooms:** it is often a nice idea to include a bath or shower room in your loft conversion, the best place for this is generally directly above your existing bathroom as this should

ensure that you can connect into the existing drainage and water supplies without the need for excessive pipework. Any bath or shower rooms will also need to be fitted with an extract fan to improve ventilation. It is a good idea to decide on the location of any bathrooms at an early stage in your space planning process.

**Thermal Insulation:** Rising fuel bills and CO<sub>2</sub> emissions are a major concern in today's environment and you will need to provide a high level of insulation to your roof as part of your loft conversion. The most common way of achieving this is to place a high performance insulation board in between and below the rafters. Unless your roof has a breathable felt you will need to leave a void above the insulation and ensure that you have effective roof ventilation to prevent the occurrence of condensation.

**Sound Insulation:** to reduce unwanted noise the walls and floor around bedrooms will need to be insulated to reduce sound transmission, this is generally achieved by placing 100mm of sound deadening quilt in the floor void and in the partitions around the bedrooms. If you are converting the loft of a semi-detached or terraced property you will need to ensure that the sound resistance of the Party Wall within the new loft room is upgraded so that sound transmission to your neighbours is reduced.

**Heating:** to maximise the usability of the room you will probably want to install heating, in most instances the most effective way of doing this is to extend the existing central heating system. You will need to check with your plumber or heating engineer to ensure that your existing boiler has sufficient capacity to serve any additional radiators and any new radiators should be fitted with thermostatic valves to control the room temperature. If it is not possible to extend the existing system or if you prefer an alternative method of heating, e.g. electric panel heaters, careful consideration should be given as to how these can be switched and controlled to ensure that they function efficiently. All new or altered building services, such as heating appliances,

should be appropriately commissioned in order to ensure their most efficient operation.

**Electrics:** you are likely to require some electrical alterations as part of your conversion. Depending on the age and condition of your existing electrical system it is sometimes possible to extend existing circuits but sometimes new circuits and even a new distribution board will be required. It is a good idea to get advice from a competent electrician at an early stage. When appointing an electrician please ensure that they are able to issue you with BS7671 test certificates when they have completed their installation as these will be required before your Building Regulations Completion Certificate can be issued and you will incur additional costs if the test certificates have not been provided.

**Windows and Ventilation:** any new habitable rooms will need to be ventilated. Generally this is achieved by providing an opening window or roof light equivalent to 1/20th of the floor area of the room with a trickle vent at high level. All new windows must be fitted with highly efficient double glazed units.

In bath or shower rooms an extract fan should be fitted and in rooms without opening windows extract fans should be fitted that are triggered by the light switch with overrun timers that allow the fan to remain on after the light is turned out.

**Conclusion:** a well converted loft is a definite asset to your home, it can provide useful extra space and add value to your property. However a poorly converted loft can reduce your property's value and in some cases compromise your safety and the structural integrity of your home. It is important to ensure that you plan your conversion carefully and get the work carried out by an experienced contractor.

The Building Regulations exist to ensure that buildings are constructed to a reasonable standard; Liverpool City Council Building Control Team will be pleased to provide you with any further assistance that you require during the design and construction of your project.



# Garage Conversions

**Introduction:** if you need more space and you do not want to move house you may wish to consider converting your garage. Your home is probably your most valuable asset so it is important that your conversion project is carefully planned. This guide is not a substitute for professional advice but has been written to provide you with useful information about how the Building Regulations will affect your conversion.

**Suitability:** if you have a brick or block garage attached to your house it is probably suitable for conversion. When you are thinking about whether your garage is suitable for conversion you might like to consider:

- Whether there are any known problems with your garage, are there any cracks in it? Is it damp? Does the roof leak? Has the floor been contaminated with fuel or oil?
- How will you get into the new room? Have you got or can you put a doorway through to the garage from the house?
- Will you have enough parking and storage area if you convert your garage?
- Is there enough room in your garage to provide the accommodation that you require or would you be better extending the property?
- Is your existing garage built from an unusual construction? For example, prefabricated panels, concrete frame etc.

If you can resolve all of these issues then your garage may well be suitable for conversion.

**How to Proceed:** garage conversions can be complex projects and unless you are experienced in construction you will need to get some professional advice. The introduction contained advice about obtaining this and with this in place we can now consider some of the technical issues that affect garage conversions.

## Technical Issues

**Infilling the Garage Door Opening:** this tends to be the most visible part of your conversion from the outside and whatever you choose to infill the opening it will need some support. Some garages have a foundation that runs across the garage opening which you can use to support your infill. Unfortunately the only real way to tell if the front of your garage has an existing foundation is to dig a hole and find out.



BEFORE

AFTER

If there is no foundation under your garage door opening there are two main options. You can either:

1. Dig a foundation approximately 0.75m deep or to the same depth as the foundations of the existing garage, call us to inspect the foundation and then fill it with concrete.

Or

2. If the opening is only the width of a single garage door install two 150mm deep concrete lintels across the opening supported by the existing foundations.

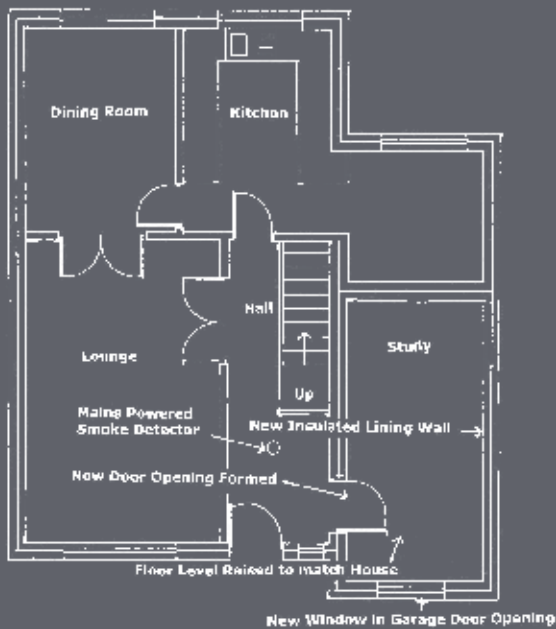
Your Building Control Surveyor will be happy to provide you with more advice about which is the best option for you when we get to site.

With the foundations in place the garage door opening can now be filled in. There are several options for how this can be done. The opening can be filled in with brickwork to match the house and a window which may need to be an escape window if the garage is entered from another room. People generally narrow the garage door opening slightly as a full width window can appear out of proportion. To keep the damp out and

to provide insulation it is best to use a cavity wall and your new window should be double-glazed. Other options include installing a lightweight timber framed panel with a weatherproof external surface and insulation, this can be quicker and cheaper and has the advantage that it is easier to remove if you, or any future owners of the house, ever wanted to reinstate your garage. Whichever option you choose it is important that the infill panel provides adequate weather resistance and insulation and that all of the new work is tied into the existing construction. Your Building Control Surveyor will be happy to provide you with advice about this.

**Raising the Floor Level:** garage floors are generally lower than the floor in the main house and they often slope towards the garage door. For these reasons garage floors are generally raised as part of a conversion. There are two main ways of raising a garage floor. Whichever way you choose it is important to consider insulation and damp proofing.

**Option 1:** Concrete: using this method a polythene membrane is placed over the garage floor, floor insulation is laid down,



There are three main areas of concern when upgrading walls in a garage conversion: weather and damp resistance, insulation and sound resistance. The upgrading scheme that you choose will be influenced by the original construction of your garage walls, these can be broadly divided into two categories.

**Cavity Walls:** if your garage is built from cavity walling, weather resistance and damp proofing are unlikely to be a problem. These walls generally have damp proof courses and providing that your wall is in good condition and is not showing signs of water ingress or rising damp, the wall will simply

require insulating and a plaster finish ready for your decoration. There are two options for insulating the wall: either the cavity can be injected with cavity wall insulation or an insulated lining board can be fixed to the inner face of the wall prior to plaster boarding or plastering. Various boards are available and your Building Control Surveyor will be happy to provide advice as to which boards are suitable for your project.

**Solid Brick Walls:** in garages these are generally only a single brick approximately 100mm thick and they often have intermediate piers that buttress the walls and give them additional strength. A single brick wall will not provide adequate weather resistance to a habitable room and a supplementary wall will need to be provided behind the original wall. This can be done either by building an additional skin of masonry to form a cavity wall, the cavity can be insulated as the wall is built, and the wall can then be dry lined or plastered. Alternatively an independent timber framed

a second polythene membrane is installed and the floor level is brought up to the same level as the house using concrete or sand and cement screed.

**Option 2: Timber:** this method involves placing treated timber floor joists onto a damp proof membrane placed over the existing concrete floor, placing floor insulation between the joists and covering the floor joists with floor boards or tongued and grooved chipboard.

The floor can then be finished with carpet, laminate or any other decorative surface.

**Lining the External Walls:** the walls used to construct garages are not normally up to habitable standards, they are sometimes formed from a single thickness of brickwork and even when built from cavity masonry they are often uninsulated. When converting your garage the walls will need to be upgraded.

wall can be constructed with a cavity between the new framing and the existing wall. The frame should be constructed from treated timber and insulation should be provided between the timber studs. Once the frame is in place an insulated plasterboard finish can be applied ready for decoration.

Occasionally garages are built with 225mm thick solid brick walls. If they are in good condition and have a damp proof course they will normally provide adequate weather resistance but they will need to be lined with an insulating board to improve their insulation.

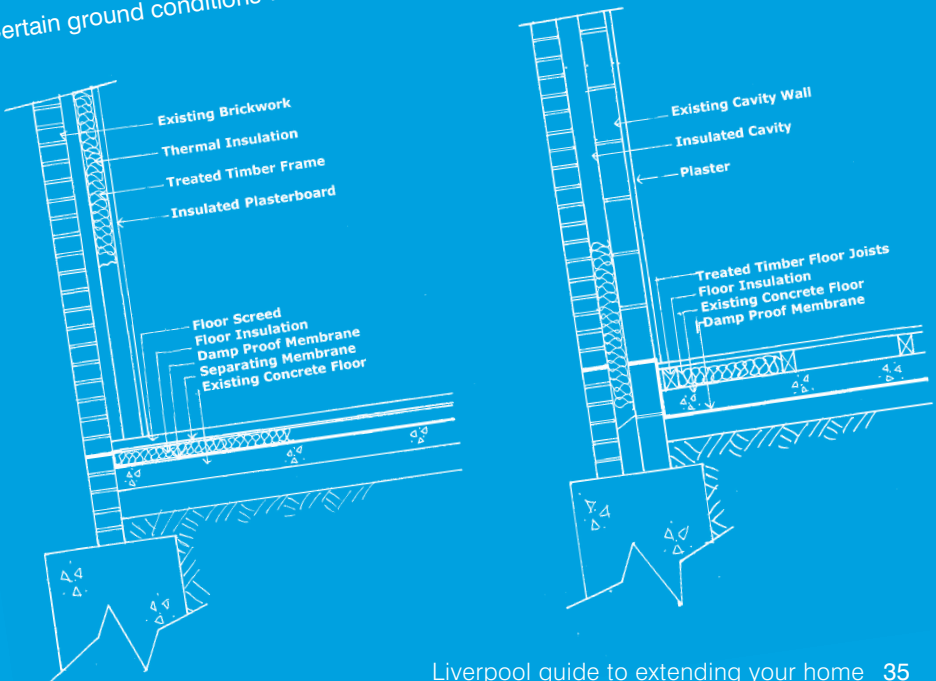
**Party Walls:** if any of the walls of your garage are shared with a neighbour it is considered to be a Party Wall. These walls will need to be upgraded to reduce sound transfer between your new room and your neighbour's property. Your Building Control Surveyor will be happy to provide you with advice as to how you can upgrade any Party Walls.

**The Ceiling:** unless your existing garage has an adequate ceiling you will need to provide one as part of your conversion. Plasterboard is the most common material used for ceilings as it offers good fire resistance and flame spread properties. Other materials can be used but they will generally need to be treated to improve their fire performance. If the garage is open to a roof you will need to provide insulation above the ceiling and the roof void will generally need to be ventilated above the insulation to reduce the risk of problems with condensation. In a pitched roof fibreglass insulation will normally suffice but with flat roofs, where space is confined, high performance insulation boards are often required.

Your Building Control Surveyor will be happy to discuss this with you.

**Heating:** to maximise the usability of the room you will probably want to install heating; in most

Certain ground conditions will affect the ground floor detail



instances the most effective way of doing this is to extend the existing central heating system. You will need to check with your plumber or heating engineer to ensure that your existing boiler has sufficient capacity to serve any additional radiators and any new radiators should be fitted with thermostatic valves to control the room temperature. If it is not possible to extend the existing system, or, if you prefer an alternative method of heating, e.g. electric panel heaters, careful consideration should be given as to how these can be switched and controlled to ensure that they function efficiently. All new or altered building services, such as heating appliances, should be appropriately commissioned in order to ensure their most efficient operation.

**Drainage:** if you want to include a sink, bathroom, shower room or cloakroom in your conversion it is important that you consider drainage at an early stage. Any new appliances will need to connect to your existing foul drainage system as they are not allowed to be connected into rainwater drains. When planning your layouts make sure that there are suitable routes for pipes to run to a point where they can connect to existing drains.

**Windows and Ventilation:** any new habitable rooms will need to be ventilated. Generally this is achieved by providing an opening window equivalent to 1/20th of the floor area of the room with a trickle vent at high level. All new windows must be fitted with highly efficient double glazed units and it is wise to make sure that they contain an opener with a clear area of at least 0.33m<sup>2</sup> and 450mm wide which should be large enough for you to escape through in the case of fire. This is essential if the door out of your garage opens into a room other than your entrance hall. Special fire escape hinges should be fitted to this window to ensure that it can be fully opened if you ever need it. In bath or shower rooms an extract fan should be fitted and in rooms without opening windows extract fans should be

fitted that are triggered by the light switch and have overrun timers that allow the fan to remain on after the light is turned out.

### **Fire Protection and Means of Escape:**

when you are investing money in your home it is a good opportunity to review the fire precautions that are available in the existing house. Mains operated smoke detection significantly improves fire safety in the home and the Building Regulations require that it should be installed where garages are converted to habitable rooms.

**Electrics:** you are likely to require some electrical alterations as part of your conversion. Depending on the age and condition of your existing electrical system it is sometimes possible to extend existing circuits but sometimes new circuits and even a new distribution board will be required. It is a good idea to get advice from a competent electrician at an early stage. When appointing an electrician please ensure that they are able to issue you with BS7671 test certificates when they have completed their installation as these will be required before your Building Regulations Completion Certificate can be issued and you will incur additional costs if the test certificates have not been provided.

**Conclusion:** a well designed and constructed garage conversion can be a definite asset to your home that can provide useful extra space and add value to your property. A poorly thought-out conversion can reduce your property's value and in some cases compromise your safety and the structural integrity of your home. It is important to ensure that you plan your conversion carefully and get the work carried out by an experienced contractor.

The Building Regulations exist to ensure that buildings are constructed to a reasonable standard; Liverpool City Council Building Control Team will be pleased to provide you with any further assistance that you require during the design and construction of your project.





# Domestic Cellar Conversions

**Introduction:** if you are fortunate enough to have a cellar beneath your house and you need more space you may wish to consider converting it if you need more space. Your home is probably your most valuable asset so it is important that your conversion project is carefully planned. This guide is not a substitute for professional advice but has been written to provide you with useful information about how the Building Regulations will affect your conversion.

**Suitability:** if you have a cellar beneath your house it may be suitable for conversion. When you are thinking about whether your cellar is suitable for conversion you might like to consider:-

- Is there sufficient headroom in the cellar, bearing in mind that the ceiling and the floor treatments that you will have to install are likely to reduce the available headroom?
- Does the cellar ever flood?
- What is the access like?  
Is there a place for a staircase?



- Will you have enough storage area if you convert your cellar?
- Is there enough room in your cellar to provide the accommodation that you require or would you be better extending the property?
- Is there any ventilation to your cellar or could any be provided?

If you can resolve all of these issues then your cellar may well be suitable for conversion.

**How to Proceed:** Cellar conversions can be complex projects and unless you are experienced in construction you will need to get some professional advice.

The introduction contained advice about obtaining this and with this in place we can now consider some of the technical issues that affect cellar conversions.

## Technical Issues

**Lowering the Cellar Floor:** if there is not sufficient headroom in your cellar it is sometimes possible to lower the cellar floor. This is not however a simple operation and careful consideration needs to be given to whether lowering the floor will undermine the house or the neighbour's house foundations and whether the floor will end up below the water table and make the property more vulnerable to flooding. Specialist advice should always be taken before considering lowering cellar floors.

**Waterproofing:** as most cellars are set within the ground they tend to suffer from problems with damp. If it is to be converted to a habitable room your cellar will need to be damp proofed. A number of systems are available for damp proofing cellars and most of them use a proprietary waterproof systems known as tanking. These systems are installed to form a continuous damp proof layer across the floor and up the walls and is generally installed by specialist companies who will offer an insurance backed guarantee for the installation. Protecting your

cellar from damp is an important part of the cellar conversion process and we will need to approve details of the proposed system and the installer prior to installation.

**Access:** some cellars already have good stepped access to them, whether the existing stairs will provide suitable access to a habitable room is a matter of judgment and our Building Control Surveyors will be happy to offer advice. If there are no steps, or if the existing steps are inadequate, a new stair will need to be installed. Careful consideration should be given to the best location for the stair and this will be influenced by a number of factors including the layout of the existing house and cellar, the headroom available and whether a secondary means of escape can be provided from the cellar area. Wherever the stair is installed it should be designed in accordance with the following guidance.

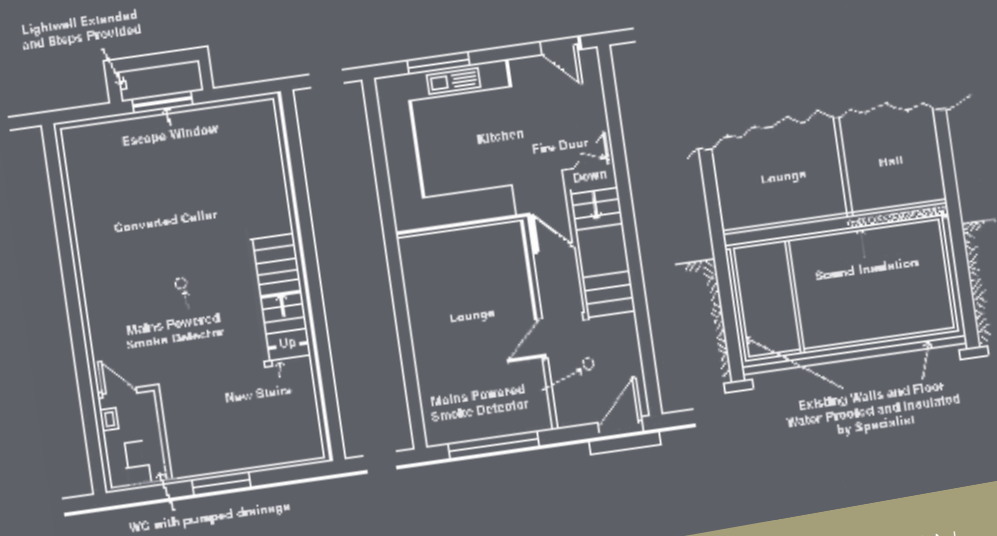
**Pitch:** the maximum pitch for the stair should not exceed 42 degrees.

**Rise and Going:** the maximum rise of each tread of a domestic stair should not exceed 220mm and the going should be at least 220mm.

**Headroom:** the clear headroom over the stair and landings should be at least 2m.

**Handrails and Balustrades:** the stair should be provided with a handrail at least 900mm high and any exposed edges of stairs or landings should be provided with balustrading at least 900mm high.

**Fire Protection and Means of Escape:** your cellar will need to be provided with suitable escape routes in case of a fire. If your cellar has a light well it may be possible to upgrade this so that as well as providing ventilation to the room it can provide a secondary fire escape. To be considered as a secondary fire escape it would need to be fitted with a door or window with a clear area of at least 0.33m<sup>2</sup> and 450mm wide. Special fire escape hinges should be fitted to this window to ensure that it can be fully opened



...A WELL CONVERTED CELLAR CAN BE AN INTERESTING SPACE AND CAN BE A GREAT WAY OF GETTING EXTRA ROOM IN YOUR HOUSE.

if you ever need it and you should be able to easily climb up from the light well to ground level. If you cannot provide a secondary fire escape the staircase will need to end up in a fire protected hallway with a door direct to outside.

When converting your cellar it is a good opportunity to review the fire precautions that are available in the existing house. Mains operated smoke detection significantly improves fire safety in the home and the Building Regulations require that it should be installed where cellars are converted to habitable rooms.

**Drainage:** if you want to include a sink, bathroom, shower room or even a washing machine in your conversion it is important that you consider drainage at an early stage. Any new appliances will need to connect to your existing foul drainage system and the drains are usually above

the level of the appliances that you wish to install. You are likely to need to install a pumped drainage system and various package systems are available that macerate the drainage and pump it via a small diameter pipe to the existing drainage system. When planning your layouts make sure that there are suitable routes for pipes to run to a point where they can connect to existing drains.

**The Ceiling:** unless your existing cellar has an adequate ceiling you will need to provide one as part of your conversion. Plasterboard is the most common material used for ceilings as it offers good fire resistance and flame spread properties. Other materials can be used but they will generally need to be treated to improve their fire performance. If either your cellar or the room above is to be used as a bedroom you will need to install 100mm of acoustic quilt within the floor void between the rooms.

**Heating:** to maximise the usability of the room you will probably want to install heating, in most instances the most effective way of doing this is to extend the existing central heating system. You will need to check with your plumber or heating engineer to ensure that your existing boiler and pump has sufficient capacity to serve any additional radiators. Any new radiators should be fitted with thermostatic valves to control the room temperature. If it is not possible to extend the existing system, or, if you prefer an alternative method of heating, e.g. electric panel heaters, careful consideration should be given as to how these can be switched and controlled to ensure that they function efficiently. All new or altered building services, such as heating appliances, should be appropriately commissioned in order to ensure their most efficient operation.

**Ventilation:** any new habitable rooms will need to be ventilated and this can sometimes present a problem for cellar conversions. Where the cellar contains a light well this can sometimes be adapted to include an opening window equivalent to 1/20th of the floor area of the room with a trickle vent at high level. In any bath or shower rooms an extract fan should be fitted and if they do not have opening windows extract fans should be fitted that are triggered by the light switch with overrun timers that allow the fan to remain on after the light is turned out. Where natural ventilation through windows is not practical a mechanical ventilation system will need to be installed and various package systems are available on the market. Ventilation should be considered early in the design stage as, if mechanical ventilation is required, the duct work will need to be accommodated.

**Thermal Insulation:** Rising fuel bills and CO<sub>2</sub> emissions are a major concern in today's environment and you will need to provide a high level of insulation within your conversion. Your cellar should provide an insulated envelope so that the amount of heat escaping is minimised. The walls and

floor of your cellar are generally lined with insulating boards and the windows should include double glazing units incorporating low emissivity glass. As well as insulating your extension you will need to consider the efficiency of any services you put into it. Low energy light fittings should be used where possible and any new heating systems should work to high levels of efficiency and have suitable thermostats and controls.

**Electrics:** you are likely to require some electrical alterations as part of your conversion. Depending on the age and condition of your existing electrical system it is sometimes possible to extend existing circuits but sometimes new circuits and even a new distribution board will be required. It is a good idea to get advice from a competent electrician at an early stage. When appointing an electrician please ensure that they are able to issue you with BS7671 test certificates when they have completed their installation as these will be required before your Building Regulations Completion Certificate can be issued and you will incur additional costs if the test certificates have not been provided.

**Conclusion:** a well converted cellar can be an interesting space and can be a great way of getting extra room in your house. Cellar conversions are often not simple projects and a poorly thought-out conversion can reduce your property's value and in some cases compromise your safety and the structural integrity of your home. It is important to ensure that you plan your conversion carefully and get the work carried out by an experienced contractor.

The Building Regulations exist to ensure that buildings are constructed to a reasonable standard; Liverpool City Council Building Control Team will be pleased to provide you with any further assistance that you require during the design and construction of your project.



# Other Alterations

**Introduction:** a number of home improvement projects are covered by the Building Regulations and this chapter sets out to explain how the Building Regulations affect some of the projects that you may be considering.

This guide is not a substitute for professional advice but has been written to provide you with useful information about how the Building Regulations will affect your project.

## Removing Internal Walls

Internal walls have a number of functions, some are fundamental to the structure of the house, some offer fire protection to the stairway and others merely divide up the space within the house and can be altered or removed with very few issues.

Load bearing walls are fundamental to the structure of the house and careful consideration needs to be given before they can be altered or removed. Alteration or removal of load bearing walls requires Building Regulations consent and generally speaking a structural engineer should be commissioned to design the alteration. The structural



LOAD BEARING WALLS ARE FUNDAMENTAL TO THE STRUCTURE OF THE HOUSE AND CAREFUL CONSIDERATION NEEDS TO BE GIVEN BEFORE THEY CAN BE ALTERED OR REMOVED.

engineer will consider what loads the wall is taking and will design a beam and, if necessary, other supporting structure to ensure that the loads the wall was carrying are safely transmitted to the ground. We will inspect the work as it progresses and then issue a completion certificate to show that the work complied with the Building Regulations.

The walls forming the staircase enclosure within your house provide some fire protection and provide you time to escape if your house catches fire therefore alteration of these walls requires Building Regulations consent. If these walls are removed it is essential that your house is fitted with mains operated smoke detection and that

all of your rooms have windows suitable for fire escape purposes (see Fire Precautions – Domestic Extensions). In houses of three storeys or more other fire safety measures such as sprinklers may be required. If you wish to remove one of these walls contact us and we will arrange to visit you to establish whether the walls are essential to the fire protection within your house and advise what, if any, additional work is required to allow the alterations to take place.

### **Bay Windows and Chimneys**

In Building Regulations terms these are basically small extensions.

They require Building Regulations consent and much of the guidance in the Extensions

chapter is relevant albeit on a somewhat smaller scale. Chimneys require lining with a flue liner that is suitable for the fire that they will serve and the installer should test the flue prior to commissioning the fire.

We will carry out a series of inspections on these projects and issue a completion certificate when the works are satisfactorily completed.

## New Drainage

Refitting existing kitchens and bathrooms do not generally need Building Regulations consent but where new drainage is installed to serve a new bathroom or other appliance Building Regulations consent is required.

With these projects we will carry out a series of inspections to ensure that the drainage and ventilation is satisfactory and issue a completion certificate when the works are satisfactorily completed. If new kitchens or bathrooms are formed in rooms not previously used for those purposes Building Regulation consent will be required.

## Replacement Boilers and Alterations to Electrical Systems

These alterations require Building Regulations consent although in practice most of this work is carried out by contractors who can self certify their work.

Details of the self certification scheme are given in the introduction to this guide and, if your contractor is able to self certify, you will not need to make a separate Building Regulations application.

If you wish to use a contractor who is not registered with a competent person self

certification scheme and require approval from the local authority for those works you will be required to submit the necessary application and we will appoint a registered competent person to carry out the relevant inspections of the work.

**Please note** that the costs incurred for that appointment will be included as an additional cost over and above the standard application fee.

A Completion Certificate will be issued when work has been satisfactorily completed and assessed by the appointed registered competent person.

If you wish to use a contractor who is not registered with a self certification scheme please contact us and we will arrange for the necessary application to be submitted, carry out the relevant inspections and issue your completion certificate when work has been satisfactorily completed.

Whichever scheme you use make sure that you get the completion certificate as you will need this if you wish to sell your house.

## Conclusion

This guide has endeavoured to provide useful information about a range of typical domestic projects and we hope that you have found it useful.

If you need any further information about a project that you are considering please contact Liverpool City Council Building Control Team and we will be happy to provide further advice.

# Radon

**Radon:** Radon is a natural radioactive gas. You cannot see, smell, hear or feel it. It comes from minute amounts of uranium that occur naturally in all rocks and soils and the air in all buildings contains a degree of radon.

The gas can move through cracks and fissures in the subsoil and eventually to the atmosphere. Most of the radon will disperse harmlessly but some will pass from the ground and collect in spaces under or within buildings.

Some areas of the country might have unacceptably high concentrations unless precautions are taken; the granite areas of South-West England is one of these areas.

The level of radon protection required to your extension depends on the location of your property. This can be determined either by consulting your local Council Building Control Services office or by accessing the maps on the Building Research Establishment website. The maps indicate the highest radon potential within each 1-km grid and determines whether full or basic radon precautions are required or if radon protection is not needed at all. More accurate information is available from the Health Protection Agency or the British Geological Survey.

Radon protective measures can be included relatively easily and cost-effectively within extensions to dwellings.

All extensions to dwellings which fall within a full or basic radon protection area will be required to incorporate an appropriate level of radon protection if a new ground floor is provided.

## **Full radon protection:**

The damp proof membrane (minimum 1200g) acts as the radon barrier. It is important that the membrane extends through the cavity and is linked with a cavity tray.

A subfloor sump is also required. Where the existing house has a solid floor the sump could be used to reduce the level of radon in both the extension and the existing building.

**Basic radon protection:** Only the continuous damp proof membrane is required.

The detailing in both cases will depend on the type of construction used and the positioning of the damp proof membrane, your local surveyor will be able to give you further





guidance, alternatively examples are provided on the BRE website.

Wherever possible the construction joint between the new floor and the existing house should be sealed. Where radon barriers have been incorporated in both the new floor and the existing floor, the aim should be to joint the two barriers where they meet within the wall of the house. This is difficult to achieve in practice without damaging the existing barrier and a simpler alternative is to cut a chase in the wall slightly above or below the existing barrier in which to tuck the new barrier.

If the existing house has a beam and block or suspended timber floor, care should be taken to ensure that the provision of sub-floor ventilation is maintained.

It is recommended that you have your house measured for radon before plans are prepared. Ideally measurement should be over at least 3 months; the Health Protection Agency (HPA) can provide detectors for this purpose. If your dwelling is found to exceed the current recommended action level, appropriate protection measures can be incorporated into your building project.

Figure 1 Routes by which radon enters a dwelling



#### Key to ingress routes

- 1 Through cracks in solid floors
- 2 Through construction joints
- 3 Through cracks in walls below ground level
- 4 Through gaps in suspended floors
- 5 Through cracks in walls
- 6 Through gaps around service pipes
- 7 Through cavities in walls

#### Useful contacts

HPA – Radon Studies Group  
Radiation Protection Division,  
Health Protection Agency,  
Chilton, Didcot,  
Oxon, OX11 0RQ  
[www.ukradon.org](http://www.ukradon.org)

Building Research Establishment  
Garston,  
Watford, WD25 9XX  
[www.bre.co.uk/radon](http://www.bre.co.uk/radon)

British Geological Survey  
Keyworth,  
Nottingham, NG12 5GG  
[www.bgs.ac.uk/radon](http://www.bgs.ac.uk/radon)

# Mining

There are areas within Merseyside that have historically been heavily mined particularly in the St Helens and Halton areas.

For new buildings and areas of concern, initially a desk study is required to assess the risk to the development. A desk study is carried out by a suitably qualified person and investigates the possible risks associated with mining using maps and archive records. This report will then provide recommendations and a conclusion. The recommendations will normally say either that there is minimal risk from mining activity or that further investigations are necessary.





## Local Authority Building Control

All local authorities in England and Wales are part of LABC, which is the UK's largest building control network. LABC is the member organisation representing the 320 local authority building control departments comprising over 3,000 professional surveyors and support staff and LABC is, by far, the largest building control provider in the UK.

## You can trust LABC

Local authority building control teams are always available and work with householders, architects, builders and trades people to make sure work is reported and completed correctly. We are independent and can reassure you that work complies with the Building Regulations.

This is usually a straightforward, cooperative and easy process. For householders it is important because it means you get an independent check on the work being carried out. When it is all finished to the right standards, we issue a Completion Certificate which is an important document that will be required should you ever move home.

## Building Control is the householders' responsibility

It is the householder (the property owner) who is legally responsible for obtaining Building Control approval. Very often architects and builders will handle this for you. But you should check that it is being done and ask to use your local authority team who are independent, have local knowledge of sites and buildings and are always available to protect your interests should issues arise.

## What are the Building Regulations?

If you are considering undertaking any development you must consider whether the project will need to have planning permission and/or a Building Regulations application. These are two separate applications and must be applied for individually.

Building Regulations are the national standards in England and in Wales that apply to most types of building work, whether in homes or commercial properties. They ensure that the environment in which we all live is a safe and healthy place and that buildings are sustainable, energy efficient and provide easy access for young, old, sick or disabled people. Building Control inspects and approves plans and building work.

## How to make a Building Control application

Remember that Building Control is different to 'planning' and requires a separate application.

There are two types of Building Control applications. For larger projects where you have plans drawn up, you make a 'Full Plans' application. However, for small quick projects a 'Building Notice' may be used by your trades person or builder.

It is easy; you simply go to your local authority website and search for Building Control. Then look for "applications". Or you telephone or visit your council. Alternatively, go to the national LABC website [www.labc.uk.com](http://www.labc.uk.com) and put in your postcode – this will then provide the contact details for your local authority team.

# Selling Your Property



When buying and selling a house it can be a stressful and daunting process. In order to assist you in ensuring that some of the problems commonly encountered when selling a house are dealt with at an early stage with the help of Building control it may be possible to reduce the chance of delay or the risk of losing that important sale.

## How can Building Control assist with selling your home?

During the conveyance process your solicitors will normally require you to fill out a fixtures and fittings document. Within this document you are required to identify any building work that has been carried out that required a Building Regulations application. If alterations and extensions to buildings have been carried out without Building Regulations approval, these will come to light during the purchasers' solicitor sales investigations, if the relevant completion certificates are not in place then this could delay the sale of your property.

## I have Building Regulations approval but I do not have a completion certificate.

If an outstanding Building Regulations application is in place, but a completion certificate has not been issued, then it is important to arrange for one of our Building control team to carry out the completion inspection at the earliest opportunity, so that upon satisfactory inspection of all relevant aspects of construction a completion certificate can be issued ready for the solicitors.

## Work has been carried out but I wasn't aware I needed a Building Regulations application.

This guide has been published to avoid this happening however if you find yourself in this situation it will be necessary to apply for a Regularisation Certificate. This is a retrospective Building Regulation application. In most cases the work will have been finished, this means that certain elements of the work may need to be opened up in order to establish compliance with the Building Regulations. A pre- application inspection can be made so that one of our building control team can give you the necessary guidance.

## What about insurance?

It is possible to obtain an indemnity insurance policy at a cost and obtain cover to insure certain alterations where no Building Regulations approval exists. It will be necessary to check the individual policy in terms of the extent of the cover and any limitations or exclusions. Some purchasers can be put off by indemnity insurance so having the Regularisation documents in

place should increase buyer confidence knowing that the works that have been carried out are legal and no enforcement action will be taken.

## Contact Building Control

If you have any questions or would like to arrange for us to visit your property to carry out an inspection please contact us using the details contained in the contacts page.



# And Finally – How to Save Money

As you progress with any project you will undoubtedly become aware (if you are not already) that building work is generally expensive, causes disruption, mess and dust and usually takes longer than expected. These may all be good reasons for using the opportunity to consider undertaking some additional energy saving measures at the same time. After all, the cost of installing loft insulation is likely to be insignificant compared to everything else happening, but will quickly result in savings in heating costs as well as improving the comfort of your home. There are many other possibilities with short payback periods, so why not look at the Energy Saving Trust for some good ideas?

<http://www.energysavingtrust.org.uk/In-your-home/Roofs-floors-walls-and-windows>

## Conclusion

This guide has endeavoured to provide useful information about a range of typical domestic projects and we hope that you have found it useful.

If you need any further information about a project that you are considering please contact us and we will be happy to provide further advice. Telephone 0151 233 3021



# Contacts

## Contacts

Liverpool City Council  
Planning and Building Control  
Municipal Buildings  
Dale Street  
Liverpool  
L2 2DH

Tel: 0151 233 3021

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Web: [www.liverpool.gov.uk](http://www.liverpool.gov.uk)

<http://liverpool.gov.uk/planning-and-building-control/householders/building-regulations-approval/>

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As a reciprocal gesture we have pleasure in drawing the attention of our readers to their announcements.

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