

Documentation for opening-up work

Separate opening-up contracts

In some cases it may be worth investing money in preliminary investigation as well as in eventual repair. Clear and specific documentation should be prepared for preliminary opening-up work, to ensure that there is as much contractual control as possible. Safety must always be considered.

Opening-up during main works

Where opening-up work forms part of a main contract, it may be worth including opening-up and inspection in the contractor's preliminary work with a programme of dates for inspections by local authorities, provision in the timetable for any decision that may be needed as a result of the opening-up works, and an estimate of provisional sums against work which may become necessary. Where opening-up work reveals conditions significantly worse than those expected, the local authority should be consulted again and further agreement reached.

Recording information

Photographs should be taken and, where appropriate, sketches and dimensioned drawings made of any areas of opening-up. Materials should be carefully set aside for reuse, wherever possible, and, where necessary, items should be labelled and referenced to a drawing so that they can be accurately reinstated. Protection of features *in situ* is normally best from a conservation viewpoint, although where there is a particularly serious risk of theft or vandalism it may be prudent to make suitable arrangements for more secure storage elsewhere, pending reinstatement.

Personal safety

Go prepared

Historic buildings requiring investigation works frequently involve structures in a run-down condition that have been poorly

maintained. In view of the possibility of injury in such buildings you should go prepared and be on your guard: a torch will usually be an asset. Safety helmets and sensible clothing should be worn, including stout shoes or safety boots. Where there seem to be particular risks, it is safer not to go alone.

Be on your guard

Hazards can include rotten or missing floor boards or loose materials that may be covering holes. It can be sensible to keep to the edges of rooms if a floor

appears suspect, or to walk along the lines of beams or joists. Another hazard can be electrical services that are still live.

Stick to precautions

As a matter of habit, it is sensible to stand still while looking up and to begin inspections of neglected buildings at the lowest level, so that the condition of upper floors can be evaluated from underneath before they are walked upon. You should keep a hand free when moving around and climbing. Take your time, walk around slowly, and keep alert at all times.

Checklist

Action

Try non-destructive methods of investigation first

Structural monitoring, where appropriate

Identify any need for opening-up and the reasons

Consult with the local council's conservation officer (and English Heritage where appropriate)

Consult with the Diocesan Office in the case of a C of E church, or the appropriate authority in the case of other denominations

In the case of a leasehold property check the lease and contact the property owner, if necessary

Obtain consent if necessary

Prepare documentation for any opening-up activities

Take precautions to minimise risks to personal safety

Carry out opening-up works, if necessary

Reinstate the fabric that has been opened-up

Make allowance for further investigations during the main works, if necessary

Watchpoints

Expert help may be useful in analysing a building's history

Over as long a period as possible

Keep opening-up to the minimum possible

They can advise on whether formal consent is needed or whether an exchange of letters will suffice

A faculty may be needed for a C of E church, or its equivalent in the case of other denominations

The consent of the property owner may be needed

It is clearly important to remain on the right side of the law

Ensure that there is as much contractual control as possible

Wear sensible clothing, including a helmet where appropriate. Take a torch. Stand still when looking up and be on your guard

Make sure that work is reversible, as far as possible, that each stage is recorded, and that the extent of agreed opening up is not exceeded

Make good, reusing materials and matching original work

Ensure that contract documents are clear on this point

Investigative work on historic buildings



ENGLISH HERITAGE

Introduction

The repair or alteration of a historic building is a serious matter and it needs to be planned carefully to ensure the right results. Before beginning work on a historic building, a prudent owner and his or her professional advisers will normally want to reduce the risk of extra unforeseen works becoming necessary. The more unknown problems hidden in a building, the more the costs are likely to escalate as an inadequate initial specification and contract will result in the need for additional work. Decisions about the repair or alteration of an old building should be based on an understanding of its original form and construction techniques, and on each stage in its subsequent evolution. Many apparent building defects originate from the effect of modification to the original structure. Knowledge of the form of construction, the condition, and the construction history of a building can reduce uncertainty about the extent of any necessary repairs. Proposals can then be made and costings prepared with greater confidence.

One of the several ways of acquiring information about the building before work begins is the practice of removing surface materials in order to investigate what lies beneath. This is known as 'opening-up' and in some situations, though by no means all, it can be the only sure way of discovering hidden information. This leaflet gives guidance to owners, their professional advisers, and local authorities on the practice of opening-up, and other forms of investigative work used when planning repairs of historic buildings. It should be emphasised that opening-up is only one of a number of methods of investigation, and it can be destructive. In some circumstances, the work involved in



opening-up may require consent (see *Is consent required?* below).

Where adopted, opening-up works should be kept to the minimum possible and should be carried out by skilled contractors who understand the constraints. Opening-up should not be allowed to develop into 'stripping out'. Detailed investigations should be targeted towards potential risk areas and should not be so extensive or so damaging that the very historic interest of the building becomes threatened. Before the fabric of a building is touched, you could do well to explore other ways of finding the information you need.

What to try first

The following suggestions should be combined, where appropriate, to give as full a picture as possible of the history of the building, its present condition, and the causes of any problems. In particular, looking at the building and at documents relating to it should be regarded as part of the same exercise. The information obtained from non-destructive investigation is likely to provide the most sensible basis for opening-up, the next stage, should that be found necessary.

Looking at documents

The more that you can find out

Decayed joist ends caused by the ingress of water, an example of deterioration that is better discovered, if possible, before a contract begins, rather than during the course of the work

about the building from documents and other non-destructive sources the better informed your decisions about further investigation and repairs will be. In some cases construction drawings may survive and building histories can often be built up from looking at old maps, prints, and other documents. Geological maps can be useful as well, and records of previous works may survive. These can sometimes yield valuable information without involving physical work to the building itself. You may find that expert help can be an advantage in locating and interpreting documents and in analysing the changes made to a building over the years. Building control records can be a valuable source of information and these often now exist on microfiche with many local authorities. The importance of maintaining cumulative records of works and investigations, which are passed on with the building, cannot be over-emphasised. Indeed, documents may in some instances even demonstrate that apparent defects have, in fact, been the subject of repairs in the past. In the case of churches,

quinquennial inspection reports will normally exist and so should records of any action taken as a result of those reports. Documents should, of course, be integrated with an analysis of the building itself, to confirm the interpretation offered.

Looking at the building

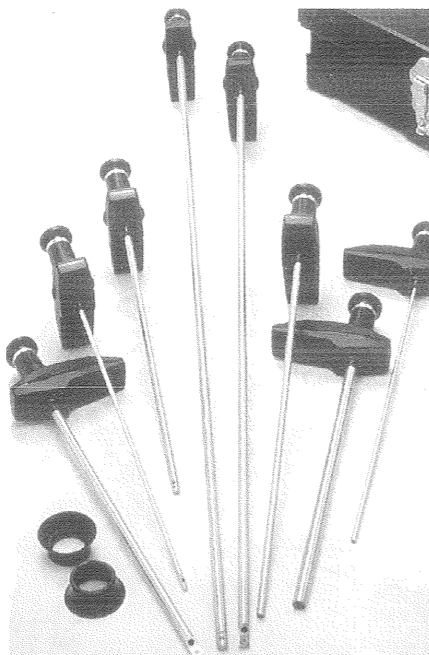
Examining a building in detail before any opening-up works are considered can yield much information, about both its historic development and present condition. Again, expertise and experience can be important. Any structural abnormalities, such as bulges, bows, and cracks, should be looked at for signs of recent movement, and old fractures distinguished from any of more recent date. Recording the position and possible development of significant cracks and analysing them can guide you about the past behaviour of the structure and show whether any particular areas could be opened up for useful results. A ladder and binoculars will often be more useful than you might anticipate when looking at a building for structural evidence, and steeplejacks, hydraulic platforms, and tower scaffolds can also all be useful in making assessments. Notes of defects such as damp-stained patches on ceilings or mould growth behind down-pipes can suggest areas where timber decay may be occurring out of sight.

Monitoring the building

Monitoring a building may be worth considering before attempting remedial work. There may be little value in expensive repairs to minor fractures that have been there for a long time, or in underpinning if settlement has ceased and the building is now inherently stable. Indeed, some deformations may date from the original construction, while certain movements may be cyclical and non-progressive and can best be studied by making observations over a period of a year or more, where time permits this.

Non-destructive techniques

Non-destructive techniques can enable you to take a broad overview relatively quickly and, on occasion, limit the need for opening-up. The



A range of optical devices to aid inspection of concealed spaces, for example behind panelling or under floors

use of a boroscope or an endoscope, for example, is a non-destructive technique that can sometimes reduce the amount of opening-up required. These instruments are fibre-optic periscopes for keyhole observations in cavities and suspended floors enabling visual records to be made in places that would otherwise be inaccessible.

Closed circuit television can sometimes be used to good effect to make surveys of drains and chimneys, while metal detectors can sometimes be useful in locating cramps or reinforcement in masonry. Pulse radar surveys can be helpful in finding voids, and resistivity surveys can locate pipes and cables in the ground without excavation. Specialist firms can offer services of this kind. Load tests, placing actual superimposed loads on a structure in a controlled way, can sometimes be a useful and non-destructive method of establishing structural adequacy, although such tests need to be carried out with great care and under proper supervision.

Consultation

Most local authorities have conservation officers who advise on old buildings and it will usually be sensible to consult with them or, where appropriate, with English Heritage at an early stage. If English



A dial gauge being used to read deflection of the stair during a carefully-monitored 24-hour load test

Heritage has grant-aided the repair of the building in the past, it is particularly important that we are consulted. Early consultation is all the more important where opening-up is likely to be considered. The conservation officer's views are likely to be of value from both a practical and a procedural point of view. In the case of ecclesiastical buildings, it can be important to make early contact with the Church of England Diocesan Advisory Committee concerned or with the relevant denominational consultant.

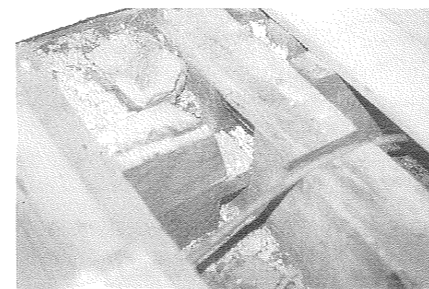
Some kinds of opening-up

Access to voids and gutters

It is generally desirable to provide permanent but discreet access to roof-spaces and other large voids, where this does not already exist. The same can be true of some valley and parapet gutters, where permanent access can assist maintenance as well as making investigation easier.

Lifting floorboards

Investigation by lifting floorboards is frequently adopted where information is needed about the condition or strength of suspended floors or for the running of services such as electrical and telephone cables and plumbing. This practice should be kept to an absolute minimum, using non-powered hand tools only, and done by skilled craftsmen in such a way as to allow



Floorboards lifted to expose a weakened mortice and tenon joint and excessive notching for a cable which has weakened the beam

for successful reinstatement. In some cases, too much removal of floorboards can affect the structure or diaphragm action of the floor, while the boards themselves can often be of interest. Safety standards will need to be strict.

Trial holes

Trial holes should only be dug if there is a clearly defined reason for doing so and if important information is likely to be gained as a result, for example about bearing strata or foundations. Many historic buildings occupy archaeologically sensitive ground, and holes should therefore not be dug if this can be avoided. The position and depth of any necessary holes should be agreed beforehand by the appropriate authorities and the relevant consent obtained, where necessary. Archaeological supervision may be needed during the work. Advice on the type and scale of such supervision can usually be obtained from either the local authority's conservation officer or the county archaeologist. If the building is on a site scheduled as an ancient monument then consent to dig will be needed. Care should always be taken to ensure that foundations are not undermined and holes should normally be back-filled after information has been obtained. If they are left open for prolonged periods, both people and the structure may be put at risk.

Removal of finishes

Before removing plaster or other finishes you should consult the local conservation officer or other appropriate local authority officials. They will need to balance the need to keep works to a sensible

minimum and to do them in a reversible manner, with the need to provide enough information to allow building owners or prospective developers to proceed with reasonable confidence. The professionals and the local authority both need to understand fully the likely effect of suggested works on the building's structure. It cannot be too strongly emphasised that a commonsense and realistic approach and early discussions by all parties are very important. It would be as inappropriate for a local authority to oppose unreasonably any physical investigation as it would be for a developer to remove panelling in a listed building without authority. The destruction of important finishes is not likely to be seen as acceptable and it should be borne in mind that wall paintings or stencilling sometimes exist under later finishes, especially in older buildings. Moreover, the cost of reinstatement of historic finishes can be high and over-enthusiastic opening-up can be as undesirable in terms of the repair bill as it can from the point of view of destroying historic fabric.

Is consent required?

It is a criminal offence to carry out works of demolition or alteration that would affect the character of a listed building unless those works have been authorised. In many cases it will be enough, after consultation with the local authority about simple exploratory work, to exchange letters confirming an agreed sensible course of action with sketches showing opening-up proposals. In less straightforward cases formal applications for listed building consent may be required. The precise limits of preliminary investigations made with the knowledge and agreement of local authority officials, but without needing formal listed building consent cannot be given a blanket definition, as each case is different. The legal test is whether or not works would amount to alteration, extension, or demolition which would affect the character of a building of special architectural or

historic interest. The approach should be to encourage intelligent and reasonable attitudes by all the parties involved, always referring to the provisions of the Planning (Listed Buildings and Conservation Areas) Act 1990 and the related government advice, including PPG 15.

It is often believed that consent is not needed for works to the interior of a grade II listed building. This is not the case. Consent is needed to alter the interior of any listed building whatever its grade if the work would affect its character, and interior features should always be respected and left in situ wherever possible. In the case of listed buildings of any grade in London and grade I and grade II* listed buildings elsewhere in England, English Heritage should be consulted, as it should also where scheduled ancient monuments are involved. In the case of leasehold property, leases will normally also require leaseholders to obtain consent from the property owner.

Church buildings and chapels have previously been exempt from listed building control, but the scope of that exemption has been restricted by an order laid before parliament which came into force on 1 October 1994. Under this, only the Church of England, Church of Wales, Roman Catholic Church, Methodist Church, United Reformed Church, and churches belonging to the Baptist Union of Great Britain (and Wales) retain the exemption: all other denominations will need listed building consent. The Church of England has its own system of faculty jurisdiction and the other denominations retaining the exemptions are also setting up control systems. Where the Church of England is concerned a faculty is likely to be needed for all but non-destructive investigatory work and the Diocesan Office or the Archdeacon should be contacted.

Where scheduled ancient monuments are involved, scheduled monument consent is almost certain to be required and applications need to be made direct to the Secretary of State of National Heritage, who will be advised by English Heritage.