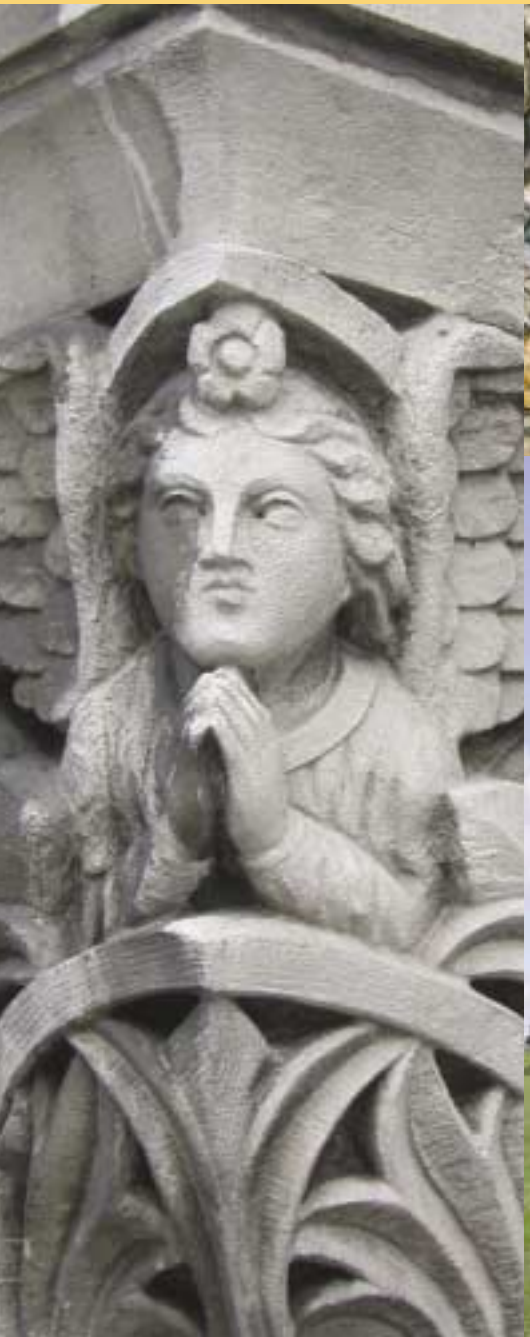
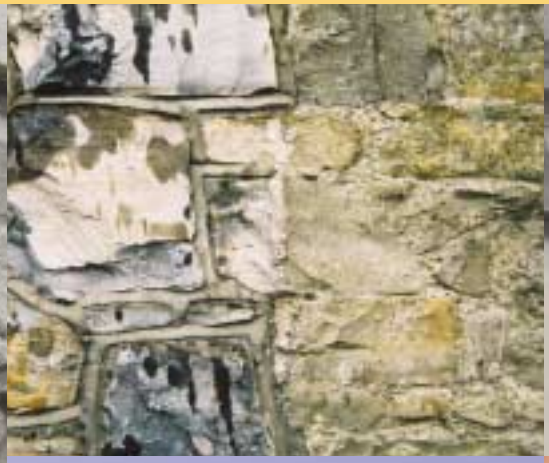
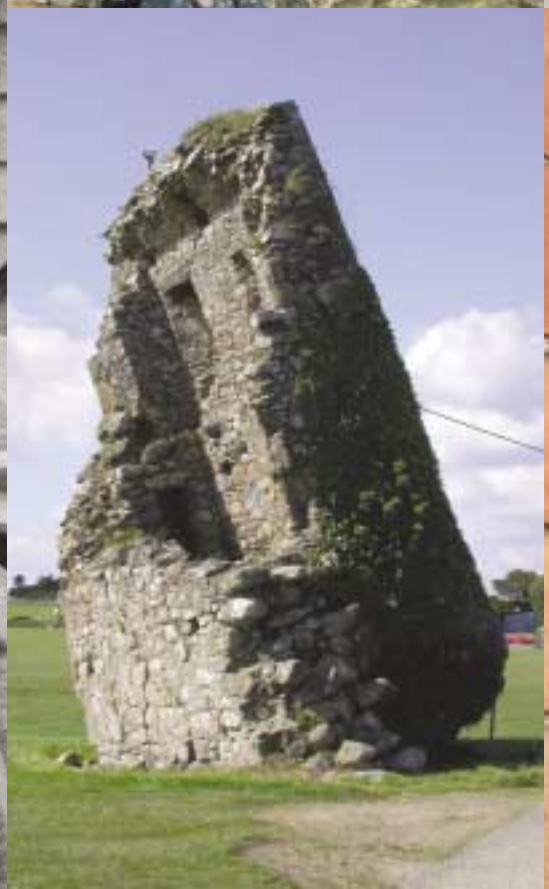
Walls and Other Structural Elements

CHAPTER 8







8.1 Introduction

8.1.1 The structural system of a historic building and its elements play a major role in defining its character. Structural elements may include external and internal load-bearing brick or masonry walls, mud walls or timber-framed walls; columns of stone, cast iron or concrete; stone, brick or concrete vaults; timber, iron or steel beams, trusses, girders and many others. Structural elements may be important as early examples of the use of certain materials such as cast iron or concrete. Even where interesting structural elements are not exposed, they are nonetheless of significance and contribute to the character of the building.

8.1.2 The structure of the building may be clad externally and the type and appearance of the cladding materials used may also contribute to the character of the building. Common cladding materials include metal sheeting such as corrugated iron, slate-hanging, tile-hanging, timber boarding and terracotta or faïence units.

8.1.3 Any finishes applied to the structure of a building may also be of importance. Rubble stone walls were often finished with a render coating. This may have been applied as a roughcast coat or with a smooth, trowelled finish sometimes ruled and lined to resemble ashlar blocks. Smooth or roughcast renders may have been limewashed, painted or self-finished. Small stones or other materials may have been pressed into the wet coating after application to provide a pebble-dashed finish.

8.1.4 When assessing the contribution of structural elements, including walls and associated features, to the character of a protected structure or of an ACA, the planning authority should ask:

a) What is the original structural system of the protected structure?
b) Has this been altered in the past? If so, are the alterations of interest or have they damaged the appearance or the structural integrity of the building?
c) Are there early or original structural elements of particular interest?
d) Are there likely to be any concealed elements of interest?
e) Is the present structural material, cladding or finish original?
f) If not, is it of interest or does it conceal an original surface or earlier finish beneath?
g) If there is an original surface or earlier finish beneath, should it be investigated or were there reasons why it was covered over, such as poor quality materials or unsightly alterations?
h) If there is a later finish, is it causing damage to the earlier surface? If it is causing damage, would the process of removing this finish lead to further damage? For example, the removal of a strong cement-based render could take away parts of the earlier surface below.
i) Is the structure part of a group or terrace of similar buildings? If so, would any alterations to one of the terrace affect the quality or character of the entire group, such as uncoordinated façade cleaning, painting or repointing?
j) Is there any original architectural detailing such as string courses, pilasters, cornices or quoins? Are there any later embellishments or alterations of interest? How will these be protected and conserved during the works?
k) Are there any elements such as balconies, verandas or balconettes attached to the walls? Do these contribute to the special interest of the building?
l) Are there any other features or fixtures of interest attached to the walls such as plaques or fire marks?

Structural elements, such as masonry walls, may play a major role in defining the character of the structure. Here the granite and brickwork wall retains its original pointing. This wall was never rendered, but where finishes were originally used they almost always contribute to the special interest of the structure

8.2 Alterations to Walls and Other Structural Elements

8.2.1 In identifying the important qualities of the walls and other structural elements of protected structures, all original architectural detailing should be respected, as should later additions, embellishments or remodelling of definite quality. There may be cases where alterations are of little interest in themselves or which positively detract from the architectural quality of the whole by reason of their poor design or their poor relationship to the rest of the building. Past alterations may also have damaged the structural integrity of the building or structure. In such cases, the planning authority may consider it desirable to encourage the reversal of unsatisfactory alterations that disfigure or conceal earlier work of greater merit or have caused physical problems or deterioration. This should only be done after careful consideration of all the consequences. Any works carried out on this basis should always be based upon firm evidence and an assessment of the original state and detailing of the structure.

Structural Stability

8.2.2 The analysis of the structural stability of a historic building generally requires the skill and experience of a specialist structural engineer rather than one who is a general practitioner. Where an application is made to demolish or dismantle a protected structure (whether in whole or in part) based on reasons of structural instability, the onus is on the applicant to prove that the proposals are valid and all relevant matters have been properly addressed. In some cases, the planning authority may need to commission its own independent advice on structural matters.

8.2.3 Where alterations are proposed to walls or other structural elements of a protected structure, the planning authority should be satisfied that the proposals are based on a proper knowledge and understanding of the existing structure. Many old buildings suffer from minor structural defects but will continue to perform satisfactorily providing they are not subject to major disturbance. Alterations such as the creation of new openings, changes to the interior spaces or the installation of new services and equipment could overload an existing structural system and, where this is a possibility, the proposals should be reconsidered. In these circumstances, specialist advice may be required.

Evidence of minor structural defects such as cracking should be investigated but may be symptomatic of structural movement or settlement that happened long ago and may now have stabilised. Cracks should be monitored over a period of time to establish if movement is continuing and is sufficiently serious to warrant action

8.2.4 Repair works to a protected structure should generally be permitted only where they are low key and involve reinstatement or strengthening of the existing structure. It is preferable to repair rather than rebuild structural elements. But where it is considered acceptable to permit part of a structure to be taken down and rebuilt, the planning authority should make it a condition of the permission that the existing work be thoroughly recorded prior to any works taking place and that rebuilding incorporate as much of the original material as possible.

Settlement

8.2.5 Proposals which have the potential to cause settlement in a historic building should be given careful consideration. Excavation or re-grading of ground levels adjacent to or within a protected structure could cause its foundations to settle or fail. The structural integrity of old foundations may also be undermined by previous inappropriate alterations or extensions, by the planting of certain types of tree close to the building or by the saturation of adjacent ground by poor drainage design.

8.2.6 Settlement of the foundations of a structure in the past may have resulted in loads being transferred onto previously non-load-bearing partitions. Therefore proposals to remove all or part of any walls of old buildings should be treated with great caution as these may adversely affect the structural integrity of the building. Intensification of use or seemingly minor alterations can cause settlement and have an adverse effect on the structural integrity of an old building.

Works in connection with damp-proofing

8.2.7 Works in connection with damp-proofing may materially alter the appearance or character of a protected structure or have implications for its structural stability. Inappropriate works can lead to the unnecessary destruction of large amounts of fabric such as external render, internal plasterwork, panelling or flooring. Where there would be such an adverse effect on the structure, the proposals should be not be permitted. Likewise, any proposals which would involve the removal of large amounts of historic finishes, such as plasterwork, are not likely to be considered acceptable.

8.2.8 In assessing applications for planning permission involving damp-proofing works that could have an adverse effect, the applicant should show that the works are in fact necessary. There may be other solutions to the issue which should be first considered. The fabric of older buildings was usually designed to allow absorption of moisture from the ground or from rainwater and its subsequent evaporation from the surface. Later alterations or neglect may have interfered with the original drying-out process of the structure. Also, damp problems may be caused by condensation.

Damp problems arise more often from poor maintenance or poorly-executed repair works than from inadequate original detailing.

The injection of a damp-proof course may result in visually obtrusive pockmarks on the external walls of the building and is unlikely to be fully effective in rubble walling

8.2.9 Reversing inappropriate later alterations may be sufficient to alleviate the problems of damp and are generally less destructive to the fabric of the building. Such works could include reopening blocked-up windows or vents, removing later impervious surface finishes from walls or floors, ensuring that ground levels around the building are appropriate, or locally re-grading the ground surrounding the building to ensure that surface water drains away from the external walls. The location of vapour-generating activities within a building such as cooking or showering should be carefully considered and, if necessary, relocated.

8.2.10 A proposal to install a new damp-proof course into a protected structure is likely materially to alter the appearance or character of the structure or have implications for its structural stability. If it has been determined that the installation of a damp-proof course is the only solution to problems in a protected structure, the method proposed should be carefully considered. The insertion of a continuous lead, slate or other damp-proof course is probably the most effective method but only if a complete physical barrier can be achieved. This may not be possible without unacceptable disruption or damage to the fabric of the structure and the added possibility of settlement-cracking in the future. This method is usually only successfully achieved in walls of coursed stone or brickwork.

8.2.11 The planning authority should be aware that the injection or infusion of a chemical damp-proof course will require injection holes drilled into the walls which may be visually unacceptable in an historic wall and can often be ineffective. The efficacy of electro-osmotic systems is doubtful. Furthermore, such systems may involve the use of metals, such as iron or copper, which are likely to rust or to stain the fabric of the building.

Adding flashings

8.2.12 Lead flashings can be provided to prolong the life of decayed projecting features but should generally only be used where this can be achieved unobtrusively. New flashings should not visually distort the proportions of important mouldings or other features.

Surface treatments

8.2.13 The covering of walls of a protected structure with a water-repellent coating should not normally be permitted. Traditional buildings were designed to 'breathe', that is, to absorb a certain amount of ground or atmospheric water, allowing it to evaporate at a later stage rather than to repel all water from an impervious surface.

8.2.14 The inappropriate use of surface consolidants prevents the evaporation process. Any cracks which develop in the surface layer will allow the entry of water trapping moisture and salts against or behind the wall surface, so promoting decay and endangering the character and fabric of the protected structure. Such treatments, where permitted, should only be carried out by experts after detailed consultation.

Cladding in synthetic materials

8.2.15 Permission should not normally be granted for the cladding of any part of a protected structure in synthetic materials, such as artificial stone.

8.2.16 The addition of external insulation to historic buildings should not be permitted where this would adversely affect important features.

8.3 Walling and Other Structural Materials

Stonework

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.3.1 There is a wide variety of building stones to be found in Irish buildings, usually locally produced limestone, granite and, to a lesser extent, sandstone. In addition, imported stones such as Portland stone, red sandstone and marble were often used in architecturally significant buildings.

8.3.2 Cut stone, or ashlar, was used extensively in construction. Many prominent buildings are entirely faced in finely worked ashlar, while even humbler buildings can include cut-stone elements such as sills, string courses, copings or quoins. Other buildings and many boundary walls were constructed of rubble stonework, which was often finished in plain or roughcast render.

8.3.3 The original ashlar surface was often tooled or polished and this distinctive texture should always be respected as a part of the building's character. Carved work, where it exists, should be identified and protected. Masons' marks, where found, should also be protected. These are symbols or initials incised into stonework by the mason originally responsible for executing the work.

Architectural detailing, tooling, masons' marks and carving – ranging from lettering and vermiculation to bas-relief sculpture– should always be noted and protected

Even durable stones such as granite and limestone can be irreparably damaged by inappropriate works. The cement mortar used in repointing this wall is stronger than the stonework. As a result, structural movement in the wall could not be absorbed by the mortar and instead the stone has fractured. The impermeability of the mortar may cause future additional damage, as any water entering the wall through this fracture will be unable to escape

CONSIDERATION OF PROPOSALS AFFECTING STONE WALLING

Specification of repair works

8.3.4 Stone is generally a very durable material but inappropriate repairs and poor workmanship can accelerate its decay. It may be better that masonry be left untouched rather than allow proposals which could result in incorrect treatment and consequent damage.

8.3.5 Stonework repairs require detailed specification and the applicant should be required to supply all necessary information to allow an assessment of the proposals. In some cases, the planning authority may need specialist advice to satisfy itself that due care has been exercised and that all relevant matters have been properly addressed in the application.

8.3.6 Where repair works are proposed to stone walls, particularly ashlar walls, of a protected structure the information required as part of a proposal could include:

a) identification of the existing stone;
b) the specification of any replacement stone;
c) a sample of that stone;
d) the proposed surface finish of any new ashlar;
e) the method of coursing;
f) the specification and extent of any proposed repointing;
g) the techniques to be used in carrying out the works, and
h) the experience and expertise of the people who will be responsible for the work.

Indenting

8.3.7 Indenting is the replacement of an individual decayed stone where that stone has been damaged or decayed to the extent that its structural integrity is in doubt. The term is also used to describe the cutting out and replacement of a decayed part of a stone.

8.3.8 The need to indent all or parts of stones may arise from the existence of iron cramps originally used to fix the stonework. Iron is susceptible to rust and expands on rusting, resulting in the cracking or spalling off of parts of the surrounding stone. Where this has occurred, it may be necessary to take remedial action to remove the cramps, replace them with a non-ferrous cramp and repair the damaged stonework.

8.3.9 Any proposed indenting should be carefully assessed, as indented stones can be visually intrusive. Leaving the damaged original stone may often be a more acceptable option. New indented stones should be finished by hand, where appropriate, to provide a finish which would blend in with the existing stonework while allowing it to be clear on close inspection that this is not the original material.

Redressing of stonework

8.3.10 Redressing an ashlar façade involves the removal of the original face of the wall. This can cause considerable damage to the appearance and character of the building with the loss of original tooling patterns, moulded detail and the patina of age.

8.3.11 There may, however, be exceptional circumstances where redressing could be permitted, for example:

a) where so many stones are decayed that no other solution is possible;
b) where the face of the stones has become badly disfigured by spalling;
c) where the deterioration is so severe as to pose a threat to the general public.

Where there has been mechanical damage or spalling of a stone, it can be repaired using a small indent, tooled to match the surrounding stone. The indented stone should respect the original joint lines of the wall

Iron cramps were traditionally used to hold stones in place. However, iron is susceptible to rusting and, on rusting, expands, often cracking the surrounding stone which spalls off so exposing the iron to further rusting. In severe cases, such as here, it may be necessary to remove the iron cramp and replace it with a non-ferrous metal such as stainless steel or phosphor bronze and repair the damaged stonework

The repair of stonework using specialised mortars may be permissible if appropriately specified. However, the long-term effect of weathering and other interventions should inform a decision as to its suitability. In this case the erosion of the face of the stone following grit-blasting has left an old mortar repair standing proud; it will inevitably fail taking more stone with it

8.3.12 Redressing should generally not be permitted, especially where there is carved detailing to the stonework. In many cases where redressing of stonework is proposed, it may be necessary to encourage the applicant to accept the existing appearance of the stonework.

Mortar repairs to stonework

8.3.13 Damaged stonework can be repaired using specialised mortars, sometimes known as 'plastic repair'. Extensive mortar repair work should not normally be permitted unless the façade has already been painted and is likely to continue to be painted.

8.3.14 Where mortar repairs are proposed, the work should be carried out by specialists and be appropriate to the fabric and appearance of the original stonework. The applicant should be able to satisfy the planning authority that the specification of the work will not promote further damage of the stonework. For example, the use of hard cement-based mortars will accelerate decay in many cases. The use of large elements of cast stone (sometimes described as 'reconstituted' or 'artificial' stone) should not generally be permitted as a replacement for original stonework. Cast stone rarely possesses the same visual or performance properties of the surrounding stonework and will look and weather differently.

Repointing of Stonework

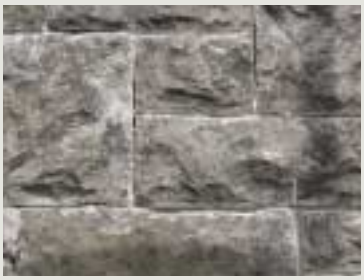
8.3.15 Repointing has the potential to cause physical damage to the fabric of the building, radically alter its appearance and substantially detract from its character and quality. A proposal to repoint stonework of a protected structure, which would materially alter its character, requires planning permission; and, where permitted, the work should be carried out by experienced people and under the direction of a specialist with a working knowledge and experience of historic buildings.

8.3.16 Repointing should be considered a repair which replaces lost or damaged fabric with that of a compatible and appropriate mix (or series of mixes), material and appearance, providing always that the existing pointing is not inappropriate or damaging to the stonework. Comprehensive repointing of a structure is rarely necessary, unless the existing pointing has deteriorated and is causing damage to the stonework or other fabric. It should be a condition that sound old pointing is left undisturbed as it is an essential part of the fabric and character of a historic building or structure and should not be removed unnecessarily.

8.3.17 Visually, any new pointing should be subservient to the stonework and for this reason obtrusive pointing methods such as ribbon, weatherstruck or strap-pointing should not be permitted unless it is proven that that was the original design intention and not merely a previous unsuitable intervention. Care should be taken to preserve the original pattern of work in cases where the joints contain pinnings (spalls) or galleting. Any pinnings (spalls) dislodged in raking out should be retrieved and re-used.

8.3.18 Existing mortar should not be cut out with inappropriate mechanical cutters, such as angle-grinders, as these will inevitably damage the arises of the ashlar, widen the joints and so materially alter the appearance of the stonework. The use of mechanical tools in the hands of specialist conservators may be appropriate for the removal of later cement repointing.

Repointing which is inappropriately specified and carried out will not only damage the appearance of stone walling but may accelerate the decay of the stone. Sound old pointing should not be removed unnecessarily but, where repointing is unavoidable, the mortar used should generally be slightly weaker than the stone to avoid damage to the historic fabric



The use of mechanical cutters such as angle-grinders to remove existing pointing should be avoided because of the potential to damage the arrises of the stones and widen joints as is the case in this illustration. Needing to rake out historic joints with power tools is often a sign that the pointing has not failed. Mechanical tools, used by specialist conservators, may be appropriate for the removal of later cement repointing

The cleaning of one building in a terrace can lead to a patchwork appearance; on a detailed level it can result in ragged edges where chemical washes or blasted grit have been sprayed onto the neighbouring structure

Stone cleaning

8.3.19 The cleaning of stonework can materially affect the appearance of a protected structure or the character of an ACA. The potential of stone cleaning to cause irreversible damage means that where works would materially affect the character of such a structure, these works will require planning permission. Unco-ordinated cleaning can create aesthetic problems where a building forms part of a terrace. Where a proposal is made to clean a building that is part of an architectural composition

and would result in an unacceptable patchwork effect, damaging the architectural integrity of the group of buildings, permission should normally not be granted. But if the stonework of the group in general is being damaged by dirt deposits, the planning authority may consider it necessary to encourage the simultaneous cleaning of all the relevant buildings to the same specification.

8.3.20 The applicant should be able to justify the necessity of cleaning the stonework of a protected structure. The most frequent reason is on aesthetic grounds. Cleaning is also undertaken to identify necessary repair works or to remove encrustation which is thought to be facilitating decay. It should be considered whether the appearance of the building would be improved by cleaning, which may reveal previously hidden patches or repairs that were specifically coloured to blend with the dirtied appearance of the building.

8.3.21 While a well-executed programme of cleaning may expose detailing of high quality and reveal a building's true architectural merit or can remove damaging encrustations, incorrect decisions can lead to irreversible damage being caused to the building together with a loss of fabric, architectural detailing and character. In some cases, an inappropriate cleaning method will accelerate decay in the stonework. Grit-blasting can be particularly problematic. The proposed cleaning methods should be examined in detail and the planning authority should inform itself on whether the proposed cleaning technique is appropriate and all relevant matters have been properly addressed.

8.3.22 Proposals for the removal of localised stains will require careful consideration. Such stains can include organic growth, graffiti or paint. The use of biocides to remove organic growth should be treated with caution as inappropriate use can cause damage to stonework. Graffiti and paint can be difficult to remove successfully from porous stone surfaces. A variety of methods such as poulticing, steam stripping and abrasion may be used but expert advice should be a requirement of such proposals.

8.3.23 A sample of each of the cleaning techniques should be approved by the planning authority before work commences. The applicant should be able to prove, to the satisfaction of the planning authority, that the proposed works have been specified by experts and would not damage the fabric of the building by:

a) promoting outbreaks of wet or dry rot,
b) creating surface staining due to the release of iron deposits within the stone,

Inappropriate grit-blasting or chemical cleaning methods may ultimately shorten the life of stonework by removing the protective skin of the stone, exposing it to greater environmental damage, or may damage the appearance of the stonework by blurring arrises, tooling or carved work, as has happened in this example

These adjoining houses of the 1770s both retain original brickwork. On the right, the brickwork has an applied red wash and penny-struck pointing; the brickwork on the left retains its original flush pointing, now needing repair

c) causing damaging salt migration through the stone or
d) distorting the architectural detailing, removing tooling marks and blurring arrises.

Brickwork

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.3.24 Brick has been used in the construction of buildings in Ireland for several hundred years. Early examples of brick walls used soft handmade bricks, sometimes of irregular shape. Where examples of these exist they should be identified and protected. Specialised pointing methods such as tuck-pointing, the use of coloured mortars and the like should also be noted.

8.3.25 As the nineteenth century progressed, the manufacture of bricks became industrialised and bricks were usually mechanically cut, resulting in sharp arrises. The use of various coloured bricks became popular and these were often used decoratively in patterned courses. Moulded bricks were extensively used in architraves, string courses, cornices, plinths and in decorative panels. Where these exist they will normally contribute to the architectural character of the wall and they should be protected.

CONSIDERATION OF PROPOSALS AFFECTING BRICK WALLING

Specification of repair works

8.3.26 Many of the considerations that apply to the repair of stonework apply equally to brickwork. Brickwork repairs need detailed specification and an applicant should be required to provide the planning authority with all necessary information to allow an assessment of the proposals. This information could include:

a) the specification of any replacement bricks;
b) a sample of the replacement brick;
c) the specification and extent of any proposed repointing;
d) the techniques to be used in carrying out the works, and
e) the experience and expertise of the people who will be responsible for the work.

8.3.27 In some cases, the planning authority may need to seek specialist advice to ensure that all relevant matters have been thoroughly investigated by the applicant.

Replacement of bricks

8.3.28 The replacement of individual decayed bricks may be permitted where bricks have been damaged or decayed to the extent that their structural integrity is in doubt. It should be a condition that decayed bricks are cut out in a way that causes the minimum disturbance to the surrounding sound bricks. If an unacceptable amount of disturbance is likely, the use of brick slips may be permitted as replacements rather than full-depth bricks, providing the structural stability of the wall is not compromised and the adhesion of the slips is guaranteed.

8.3.29 Any replacement bricks should match the original as closely as possible in size, durability, texture and colour. For example, where the original bricks are soft handmade bricks, the use of machine-made replacements are likely to be inappropriate. In special cases, it may be necessary to have new bricks made in order to achieve an appropriate match. Any replacements should be laid with the same bond, joint size and joint colour as the original. Where the brickwork is patterned or coloured, the replacement bricks should match the pattern and colours of the originals.

8.3.30 Matching second-hand bricks should normally only be used where they have been weathered similarly to the existing bricks and providing that the replacement bricks have not been taken to the detriment of another building.

The decay of the soft handmade bricks of this façade has been accelerated by the use of extensive and poorly-executed cementitious mortar repairs coupled with strap pointing

Where the repointing of historic brickwork is proposed, the specification of the mortar and the style of work to be used in repointing should be provided. Where specialist work will be required such as wigging and tucking, demonstrated here, the work should be undertaken by experienced personnel

Mortar repairs to brickwork

8.3.31 Damaged brickwork can be repaired by patching using specialised mortars, a technique also known as 'plastic repair'. Extensive mortar repair work is not appropriate in brick walls. The technique should normally only be permitted where small amounts of work are required and where specialists will carry out the work. Mortar repairs should not be permitted in cases where it is seen merely as an inexpensive alternative to brick replacement.

8.3.32 The applicant should be able to show that the specification of the work will not promote further damage of the brickwork. For example, the use of cement-based mortars will accelerate decay in many cases.

Repointing of brickwork

8.3.33 Repointing which is poorly executed or uses unsuitable techniques or materials can cause physical damage to the fabric of the building, materially alter its appearance and substantially detract from its character and quality. A proposal to repoint a protected structure, which would materially alter its character, will require planning permission. The planning authority should make it a condition of permission that the work is carried out

by experienced people under the direction of a specialist with a working knowledge and experience of historic buildings.

8.3.34 Repointing should be considered a repair that replaces lost or damaged fabric with a compatible and appropriate mix (or series of mixes), material and appearance, provided that the existing pointing is not inappropriate or damaging to the brickwork. Comprehensive repointing of a structure is rarely necessary unless the existing pointing is causing damage to the brickwork or other fabric. It could be a condition that any sound pointing is left undisturbed, as it is an essential part of the fabric and character of a historic building or structure and should never be removed unnecessarily.

8.3.35 Visually, pointing should always be subservient to the brickwork and for this reason obtrusive pointing methods such as ribbon, weatherstruck or strap-pointing should never be permitted unless it is proven that that was the original design intention and not merely a previous unsuitable intervention. Where examples of pointing exist, such as tuck-pointing or lime putty used in gauged brickwork, as much as possible of the original material should be retained and should not be lost in a comprehensive repointing of the wall.

8.3.36 Again, as with stonework, existing mortar should not be cut out with inappropriate mechanical cutters, such as angle-grinders, as these will inevitably damage the arrises of the bricks, possibly widen the joints and so damage the appearance of the brickwork. The use of mechanical tools in the hands of specialist conservators may be appropriate for the removal of later cement repointing.

Brick cleaning

8.3.37 As with stonework, the cleaning of brickwork can materially affect the appearance of a protected structure or the character of an ACA. The potential of brick cleaning to cause irreversible damage means that where the works would materially affect the character of such a structure, these works will require planning permission. Unco-ordinated cleaning of buildings, which are part of an architectural composition, can create a patchwork effect, damaging the architectural integrity of the group of buildings. In such cases, permission should normally not be granted. But if the brickwork of the group in general is being damaged by dirt deposits, the planning authority may consider it necessary to encourage the simultaneous cleaning of all the relevant buildings to the same specification.

The conservation work carried out to the left-hand house – new tuck pointing and cleaned brickwork – appears to have been well specified and executed, however the architectural integrity of the terrace as a whole may suffer from the patchwork effect of unco-ordinated works

8.3.38 The method of cleaning a brick building should be considered carefully. In some cases, the cleaning method may in fact accelerate decay in the brickwork. On the other hand, a well-executed programme of cleaning may expose detailing of high quality and reveal a building's true architectural merit. As with stone cleaning above, proposals for the removal of localised stains, such as organic growth, graffiti or paint, will require careful consideration. A variety of methods such as poulticing, steam stripping and abrasion may be used but expert advice should be a requirement of such proposals.

8.3.39 Before any works are undertaken, careful research and a full assessment are needed and the onus should be on the applicant to satisfy the planning authority that cleaning will benefit the protected structure and that the methods used will not damage its fabric or character.

8.3.40 The planning authority should approve a sample of each of the proposed cleaning techniques before work commences. The risk of damage to the fabric should be assessed. Unlike certain types of stonework, brickwork is usually unaffected by dirt deposits except in its appearance. Water-washing, if incorrectly used, may saturate the fabric and cause outbreaks of wet or dry rot within the structure or cause damaging salt migration through the brickwork. Inappropriate abrasive systems such as grit-blasting will damage the outer surface or fireskin of the brick and accelerate the decay process. Specialised pointing methods, such as tuck-pointing, will be damaged by inappropriate cleaning processes.

Timber

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.3.41 Timber is found as a structural element throughout traditional buildings whether as framing, posts, beams, lintels, wall plates, rafters or trusses. Timber pieces are also found set into masonry walls as

bonding and levelling pieces, fixing points or simply as filling. Early timber-framed external walls are extremely rare in Ireland and where they are found they should be identified and protected. Timber stud internal walls can be either structural in function, sometimes trussed, or acting as non-structural partitions.

8.3.42 In addition to their interest as evidence of original or early structural systems, old timbers are of importance where they can be used, by means of dendrochronology (tree-ring dating) or by means of the construction method used, to date periods of construction. Where original or early timber structural elements exist, such as timber flitch beams, cruck trusses and other trussed construction methods, they should be identified and retained.

CONSIDERATION OF PROPOSALS TO REMOVE OR REPLACE DECAYED STRUCTURAL TIMBER

8.3.43 While a great quantity of historic timber fabric can been lost through the processes of decay, a great deal more can be lost in the process of treating it. The appropriate treatment and repair of timber decay in old buildings involves careful detailing, experience and an understanding of the decay processes. The use of chemical treatments is no substitute for good detailing and workmanship.

8.3.44 The timbers used in structures built before the twentieth century generally came from slow-growing, often virgin, forests and as such are a non-renewable resource. This timber is usually denser (often having greater load-bearing capacity than modern timber), more durable and more resistant to fungal infection and insect attack. In many cases original timber elements can outlast pre-treated modern timber repairs exposed to the same decay factors.

8.3.45 Where timber is a significant part of the structure's fabric, the applicant may be required to provide detailed independent survey reports and methodologies for dealing with timber decay issues in a way which would minimise the damage to, and loss of, historic fabric.

8.3.46 The removal of original or early timber from a protected structure should generally not be permitted or, where proven to be necessary, should be kept to a minimum. The removal of important timber structural elements or joinery simply as a precautionary measure against possible fungal infection should not be permitted. Where an unavoidable risk has been identified, monitoring can be used as an alternative to the removal of timber. The only justification for the removal of original or early timber should usually be where structural decay has occurred and repairs require its removal. This is normally confined to bearing ends.

Original or early structural timbers contribute to the character of a structure. Rare elements of structural timber, such as this seventeenth-century brick-nogged partition, are extremely important and should be identified and protected

The localised removal of bonding or levelling timbers within a masonry wall may be appropriate where there is good reason to suspect that they have significantly decayed. However locating these timbers and removing them can involve the destruction of large amounts of historic fabric particularly plaster

8.3.47 Proposals may be made to remove large areas of render, plasterwork or other finishes in order to expose structural timber, often resulting in a significant loss of historic fabric. These proposals should not be permitted unless the applicant can prove there is good reason to suspect that significant decay has occurred to concealed structural timber. If concealed timber is present, but is not structural, a case can often be made for its retention in situ. Stripping large areas of wall plaster in the pursuit of concealed bonding timbers can often be avoided by simply tapping the plaster surface and listening for voids. Localised removal and replacement with a non-timber element can then be carried out where necessary.

Fungal attack

8.3.48 Structurally significant timber decay is generally only found where the timber is embedded in, or is in contact with, saturated masonry. Timber decay fungi in buildings are commonly grouped into 'wet rots' which includes a range of fungal species and 'dry rot' (Serpula lacrymans) a single fungal species. Although the typical conditions in which each thrive and the patterns of decay vary, the remedial actions required are the same. In the recent past,

treatments of dry rot have tended to be very destructive of the existing fabric of buildings. These treatments often require the cutting out and destruction of all timber within a specified radius of the infection and the introduction of large amounts of fungicidal chemicals into the surrounding fabric. In light of a greater understanding of the processes of fungal decay in buildings, this type of treatment is now considered inappropriate. The removal of timber should be confined to that which is structurally decayed.

8.3.49 Proposed opening-up works and treatments that require the extensive disturbance or loss of fabric (such as ceilings, floors and finishes) and the widespread removal of uninfected timber should not be permitted and are not necessary to control a fungal attack. Dry rot requires water and masonry in order to decay timber. When the source of water has been removed, the fungus will die back naturally once the timber has dried out.

8.3.50 Where proposals are made to treat fungal attack within a protected structure, the applicant should be able to show that the sources of moisture (past and present) have been identified and that proposals have been made for remedial action such as the drying-out of masonry, ventilation, repair of structurally decayed timber and the isolation of existing and new at-risk timber, with a minimum disruption of the historic fabric.

8.3.51 Proposals to irrigate walls of any structure with fungicidal chemicals should be treated with caution. In cases of dry rot decay, the drying out of the structure, the provision of adequate ventilation and appropriate detailing of repairs will be sufficient to control the infection. Where the structure is difficult to dry out, for example where there are thick masonry walls, the detailing and monitoring of the moisture contents of critical timbers, localised ventilation and, occasionally, the use of dehumidification can control rot during the drying-out period. This may arise particularly in cases where the fabric of a building has been saturated as a result of fire-fighting or flood damage.

Insect infestation

8.3.52 Only two types of wood-boring insect are commonly found in structures in Ireland: woodworm, which is the larval stage of a beetle (Anobium puncatum) and wood-boring weevils. Wood-boring weevil damage, unlike woodworm, is caused by the adult weevils. Conditions required for weevil damage include persistently wet timber partially (and often substantially) decayed by fungi.

Where an outbreak of fungal attack in timber has been identified, the removal of historic fabric should be confined to timber directly infected by the rot or structurally weakened by it. Once the source of water has been removed and adequate ventilation provided, the fungus will die back naturally, thus avoiding the need for the wholesale stripping out of timber

Where timbers contain flight holes from past infestation by wood-boring insects, it is important to establish whether or not the infestation is current. In this case a furniture beetle, or woodworm, is visible on the surface of the timber beam, indicating ongoing attack

8.3.53 Wood-boring insects require timber of a high moisture content to survive, so the elimination of dampness and the provision of appropriate ventilation should usually be sufficient to control the infestation. Appropriate remedial action to deal with wood-boring insect damage is to cut out and replace structurally affected timber and to isolate replacement timber from the moisture source, combined with clearing dirt and debris from relevant voids and the provision of ventilation to protect against future infestation.

Mud and sod walling

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.3.54 Unbaked earth was used throughout Ireland in the construction of vernacular buildings, usually where free stone was not available in sufficient quantities or quality for the construction of rubble walls. Mud-walled houses can be substantial single or two-storey buildings. Clay from the subsoil was mixed with chopped straw, water and other materials to form the building material. The mud walls were constructed off a plinth of stone and the walling built up in layers, sometimes using timber shuttering to support the work. Often the cross walls of the house containing the chimney stacks were built in stone or brick but they could also be constructed of wickerwork plastered with daub. Clay and mud were also used as mortar materials.

8.3.55 Because earth walling was traditionally covered with lime-based roughcast or limewash coatings and sometimes a stone facing, the construction of these buildings may not always be readily identifiable. Their increasing rarity means that the preservation and maintenance of the surviving examples is extremely important.

8.3.56 Sod walling is another form of vernacular walling where trimmed lumps of topsoil were used as building blocks. These blocks were sometimes pegged together or bound together with a clay mortar. Examples of this type of construction are extremely rare and any surviving examples should be identified and protected.

CONSIDERATION OF PROPOSALS AFFECTING MUD AND SOD WALLING

8.3.57 Alterations or extensions, that might endanger the stability of an earthen structure should not be permitted. Where alterations or repairs are proposed to mud-walled structures, expert advice needs to be taken by the applicant.

8.3.58 The strength of mud walling is dependent on its moisture content. Consequently, the introduction of damp-proof courses should be avoided as these may lead to a drying out of the wall and to instability in the structure. For the same reason, strong and impervious cement renders or plasters should not be permitted to the exteriors or interiors of these walls as these damage the walling material's ability to breathe and can lead to its failure.

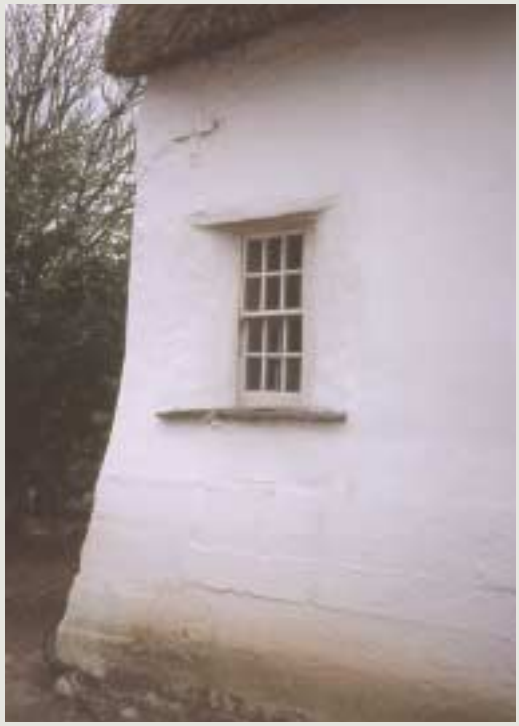
8.3.59 The addition of impervious building materials, such as the insertion of bricks and concrete blocks into the fabric, should always be avoided as these can undermine the structural stability of the walling.

Iron and other metal structures

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.3.60 Wrought or cast iron are found in use as structural elements in a variety of protected structures, including industrial buildings and conservatories. Because of technical advances during the nineteenth century in the production of iron, iron structural elements were used extensively in many Victorian industrial buildings such as railway stations and warehouses. Wrought iron has a high tensile strength and so tends to be found in beams. Cast iron on the other hand, has little tensile strength but considerable compressive strength and so was commonly used in posts and columns. Both forms of iron, and a combination of the two, were also used in architectural embellishments such as balconies, verandas, cresting and railings.

Mud walling was generally built up in layers or occasionally using unbaked blocks of clay. Mud-walled buildings are not always readily identifiable as they were usually finished with a roughcast render coating of mud or lime mortar. It is in the nature of the material that mud-walled buildings tend to decay rapidly unless well-maintained and prompted repaired when damaged



The early twentieth-century cast in situ concrete repair to this mud-walled house at Mayglass, Co. Wexford was the subject of careful consideration during recent conservation work, but was left in place once stabilised. Unbaked brick was used elsewhere for repairs to the walling

Structural ironwork is found in a large range of building types where it is usually clearly identifiable. However, cast-iron elements were also formed in imitation of masonry, as in this balustraded bridge parapet, and the material used may not always be obvious

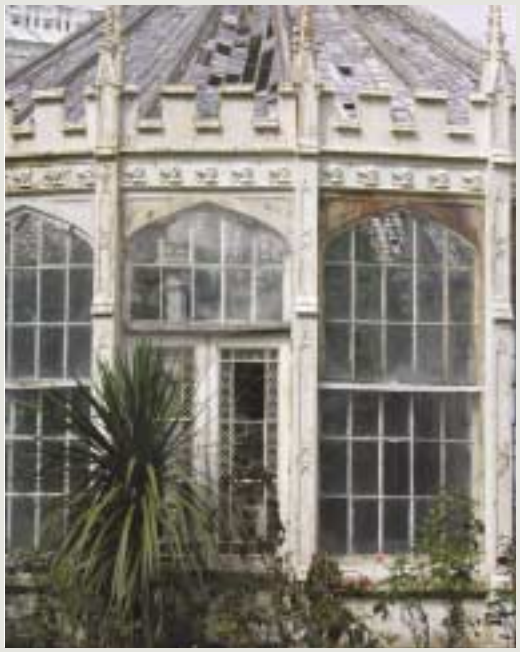
CONSIDERATION OF PROPOSALS AFFECTING IRON STRUCTURES

8.3.61 In situ repairs will usually cause less damage to historic ironwork than dismantling and re-erecting. However it may be necessary for the planning authority to permit partial dismantling and re-erection of an iron structure in cases where movement or distortion of the structure has occurred, in order to effect repairs. Dismantling may also be necessary in order to apply rust treatment to inaccessible areas.

8.3.62 Where dismantling of an iron structure is permitted, it should be conditional on the structure being recorded in detail before work commences by means of drawings and photographs, with each element tagged and numbered and cross-referred to the relevant drawing. As much of the existing material as possible should be retained and consolidated rather than renewed. Additional and appropriate material may be added, where necessary, to reinforce or to support the existing material where this would not adversely affect the fabric or appearance of the protected structure.

8.3.63 When permitting the removal of paint prior to repair, it must be realised that this action eradicates the paint history of the ironwork, where this survives, thus making it impossible thereafter to determine the original or earlier colour schemes. Where the planning authority considers important evidence of an earlier paint scheme may exist, it could be a condition of permission that a small area of ironwork be left unstripped or a proper paint analysis carried out before an appropriate method of paint stripping takes place.

8.3.64 Where small elements of ironwork are missing, a case could be made for restoration or replication of the missing element. However, such restoration should be based upon firm evidence of the original element using old photographs, drawings, or other reliable information and should not be conjectural. Where it is necessary to replace wrought-iron structural members, recycled wrought iron should be used or new wrought iron obtained, if available. This is preferable to introducing a replacement material, such as mild steel with its different physical properties, such as thermal expansion coefficient, which may be potentially damaging to the structure.



While it may sometimes be necessary to carefully dismantle an ironwork structure for repairs, some structures may consist of iron-clad sections on timber and masonry supports and may be more difficult to successfully dismantle and reassemble

Early mass- and reinforced-concrete structures, as well as early blockwork and cast or reconstituted 'stone' structures may be of technical interest. This silo of 1905 is constructed of reinforced concrete using the pioneering Hennebique technique and is one of the few such structures surviving in Ireland

Mass concrete and reinforced concrete structures

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.3.65 Mass concrete has been used for construction in Ireland since the middle of the nineteenth century. Although the use of iron, and later, steel rods to strengthen concrete began in the eighteen-fifties, the use of reinforced concrete in Ireland is primarily found in buildings of the twentieth century.

8.3.66 Both mass and reinforced concrete were commonly used in the construction of engineering structures such as bridges. In the twentieth century, mass concrete was often used as a walling material which was commonly rendered or clad. Concrete was also

used as a self-finished material sometimes board-marked from the shuttering to give the finished concrete a textured appearance. Early mass or reinforced concrete structures will be of interest and should be identified and may often be worthy of protection.

CONSIDERATION OF PROPOSALS AFFECTING CONCRETE STRUCTURES

8.3.67 Where repair works are proposed to concrete structures it is important to ensure that the applicant has carried out adequate investigations to determine the cause and extent of damage. An incomplete understanding of the mechanisms of decay can lead to inadequate, or possibly damaging, repairs.

8.3.68 Where voids in the surface of exposed concrete allow water to enter and cause spalling, these will need to be filled. However, superficial methods of repair to concrete, such as spraying with new concrete, should generally not be permitted without assessing and treating the underlying problem of rusted reinforcement. Spraying on new concrete may be visually unacceptable where it will alter the profile of the concrete components of a protected structure. Specification and methods of repair should be approved by the planning authority prior to works commencing.

8.4 Cladding Materials

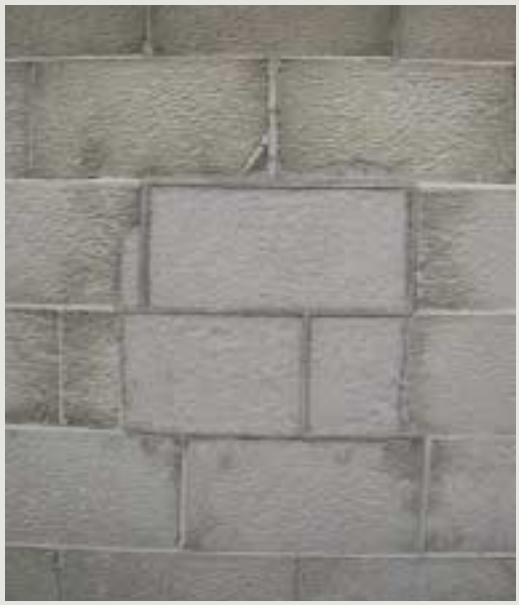
Plain and roughcast render

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.4.1 Plain and roughcast renders are traditional coatings applied to rubble, brick and other structures throughout the country and usually form an integral part of a building's weathering system as well as its designed appearance.

8.4.2 Roughcast renders were the traditional external coatings applied to rubble-walled buildings. These were made of a mixture of lime putty and sand with other additives, including animal hair, creating a relatively soft and porous render which was applied by throwing the mixture at the wall resulting in a gentle, undulating finish. Roughcast render was usually finished with layers of limewash, reapplied on a regular basis. Where original or early lime-based roughcast finishes are identified, they may be worthy of protection.

8.4.3 The late eighteenth and nineteenth centuries saw much experimentation with render mixes leading to the development of a number of patented renders including oil mastic stuccoes and Roman cement. The patenting of Portland cement in England in the early nineteenth century allowed for the production of harder, more brittle coatings which could be applied by trowel and finished to provide a smooth surface.



The repair of concrete structures should be carried out so as to resolve the underlying problem without a visually obtrusive result. In this illustration the repair to the reconstituted 'stone' will tone down in time although the strap repointing is inappropriate

Render is a traditional coating which contributes both to the weathering performance and appearance of a structure. This house has been partially faced in Roman cement in imitation of rusticated ashlar and, while not the original finish, clearly contributes to its character

8.4.4 Plain renders are found on buildings throughout the towns of Ireland and often on the minor elevations of high quality ashlar or brick-faced buildings. Plain render is a harder and smoother material than roughcast render and often included the use of cement. In many cases, the render was ruled and lined out to imitate the pattern of ashlar blocks.

8.4.5 Later, more elaborate, uses of render included the formation of imitation rustication, cornices, string courses, window and door surrounds and shopfronts. Although often not original to the building, render embellishments can be of great interest and form part of the character of a building.

8.4.6 Pebble-dash is another form of render coating usually dating from the late nineteenth and early twentieth centuries. Also known as dry-dash, this finish is achieved when natural or artificial pebbles are pushed or thrown onto wet render and left exposed.

CONSIDERATION OF PROPOSALS AFFECTING RENDERS

Proposals to remove plain or roughcast render

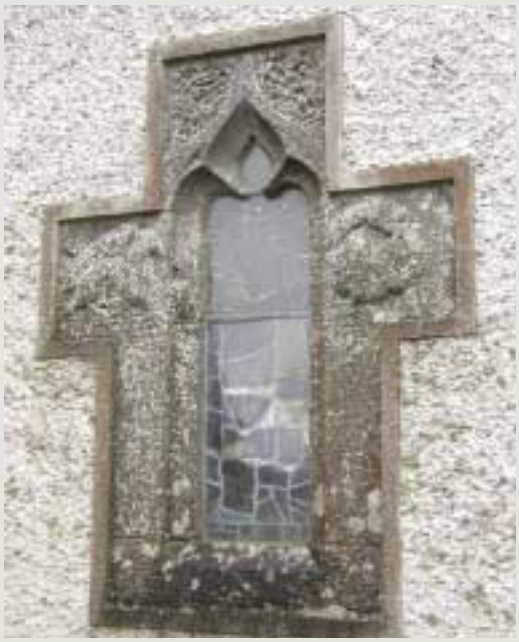
8.4.7 Early or original, plain or roughcast render contributes to the character of a protected structure and should generally not be removed. The stripping-off of existing render, merely to expose rubble or brick walls that were not originally intended to be seen, should generally not be permitted. Not only does the stripping-off of the original finish greatly diminish the architectural quality and character of the building, it also seriously threatens the watertightness of the entire fabric. Removing the original finish also eradicates part of the history of the building, making it impossible thereafter to determine the material or mix of the original coat and any paint history of the applied finish.

8.4.8 It can be sometimes proved, using old photographs or similar, that a coating is a later addition to the structure. However, in such cases it should be borne in mind that the coating may have been added in order to cover up alterations, damage or decay in the original wall surfaces, which it may not be desirable to re-expose.

8.4.9 Where it is permitted to strip off and replace a plain or roughcast render finish, the planning authority should require as a condition that any evidence of the history of the building or structure, revealed by stripping off plain or roughcast render coatings, be carefully recorded before the application of the new finish. Where it is permitted to remove a lime-based roughcast, the planning authority should normally make it a condition that it is replaced on a like-for-like basis and not with a cement-based coating. The specification, mix and finish should be approved by the planning authority before any work commences.

Embellishments in render were popular as a cheap alternative to cut-stone decoration; some craftsmen took the form to its creative epitome, notably the McAuliffe family of Listowel, active in the early twentieth century at the height of the Celtic Revival

The removal of render from surfaces originally rendered not only significantly alters the architectural character of the structure but removes the weathering layer provided by the render. In most cases the rubble stone or stone-and-brick mix, now exposed, was never meant to be visible. In this example, the removal of external render has also affected the visual integrity of the entire row of buildings



Hard cement-based render can cause lasting damage due to its impermeability. Any cracks and gaps which develop in the render allow moisture into the fabric behind, which cannot then easily escape, so saturating the wall. In the case of this mediaeval window surround, moisture, and the salts carried by it, is forced to evaporate through the historic stone so setting up conditions for decay. It can often be difficult to remove cement render without causing damage to the underlying masonry

8.4.10 Where a building is covered with an inappropriate cementitious render, which is causing damage to the fabric beneath, the opportunity could be taken to use a more appropriate replacement coating. However, where the removal of a later render is likely to cause damage to the material below, it may be better to leave it in place. Testing and assessment should be carried out and decisions made based on this information.

Proposals to apply plain or roughcast render to buildings not currently rendered

8.4.11 Walls should not normally be rendered unless the surface was originally finished in this way. Permission should not be given for such surfaces to be faced with new cosmetic treatments which would be difficult or damaging to remove, such as cement render, stone facing, Tyrolean render, dry or pebble-dashing or cement-based paints.

8.4.12 In cases where the original walling is of a very poor weathering quality and a severe degree of decay has occurred, it could be appropriate to permit the application of plain or roughcast render when the only alternative would be to reface the structure completely. Permission should only be granted after careful consideration of all the implications.

Repairing plain or roughcast render finishes

8.4.13 Most old renderings fail from problems associated with water penetration, either from lack of maintenance, inadequate protection from the elements, salt contamination from the backing material or because of poor materials or techniques employed in the original application.

8.4.14 Where the coating has separated from its backing, only the loose material should normally be removed. The sound areas of coating should be retained and patched with new material which matches in terms of colour, material, texture and strength of the original finish. The number and thickness of coats should also be matched.

8.4.15 Where the wall has an undulating surface, as with rubble stonework or earth, it could be a requirement that no attempt be made to dub out the surface in order to achieve a flat mechanical finish, unless there is evidence that this was so originally. Original details at corners and at openings should usually be replicated. Where render has been lined out in imitation of ashlar, care should be taken in setting out so that the original pattern is replicated. The lining of window arches should be set out from a centre-point or points and window and door openings should be detailed so that blocks or half-blocks rather than closers appear at the architraves.

Localised re-rendering should be carefully specified to match the existing material. In this example, while the strength and texture may be adequate, the unmatched colouring of several patches is visually obtrusive

The way that limewashed render weathers contributes greatly to the patina of age: as it rubs away layers of different colours may be exposed. New coats of limewash can be applied as necessary without removing the existing layers

8.4.16 Where areas of pebble-dashing are to be repaired or replicated, the type, size, shape and colour of the exposed stones should blend with the original while allowing it to be clear on close inspection that the work is not original.

Cut-stone details

8.4.17 Where stone quoins, string courses, cornices, or other architectural details were originally left exposed, permission should not normally be given for these to be covered over by new coatings except shelter-coating.

Painted façades

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.4.18 Decorative or other painted façades, which contribute to the character of a protected structure or of an ACA, should be identified and protected.

8.4.19 Limewash was the traditional finish for lime-based roughcast or renders and a variety of traditional building materials. It was usually applied in multiple coats and reapplied on a regular basis to maintain the fabric. Where there is evidence of limewash on surfaces, these surfaces should preferably continue

to be maintained with limewash and the use of alternative paint systems discouraged, particularly where they would have an adverse effect of the substrate by limiting the porosity of the wall.

CONSIDERATION OF PROPOSALS AFFECTING PAINTED FACADES

8.4.20 Proposals to paint façades not previously painted should be carefully scrutinised. Permission should not normally be given for previously unpainted walls of protected structures to be painted over (except for the addition of shelter-coating). The use of cement-based or other waterproof and hard gloss paints should not be permitted on surfaces covered with traditional render, as they will cause damage to the historic fabric. Similarly, the partial painting of brick or stone façades around shopfronts or to display advertising material should be avoided.

8.4.21 Plain render was often left unpainted with a grey-brown self-coloured finish, but over the years paint finishes have tended to be applied to such render. Where these are not harming the fabric, for example by restricting the porosity of the wall, no issue should arise.

Applying impermeable paint to render or masonry can inhibit the necessary passage of moisture through the fabric. Unsuitable paints may peel off, sometimes shortly after application

Metal sheeting consisting of flat or corrugated panels of iron, steel, lead, copper or zinc was used to clad many types of buildings, including places of worship such as this small church. Early metal sheeting is often of technical interest and should be identified and, where necessary, repaired, unless an inherent design fault requires its replacement to an improved specification

Coade stone, a proprietary fired clay, was used for fine decorative detailing. It generally makes a significant contribution to the character of the structure it adorns

Metal cladding

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.4.22 Many nineteenth and twentieth-century structures incorporate metal sheeting or metal-faced panels in various materials including iron, steel, lead, copper and zinc. Corrugated-iron sheeting (in fact, generally made of steel) has been used as a cladding for many vernacular buildings such as barns and outbuildings, and even churches, since the eighteen-fifties. Where this material exists on a protected structure, the profile of the corrugations should be noted and the type and colour of the finish used. Good examples of corrugated-iron-sheeted structures should be identified and protected.

CONSIDERATION OF PROPOSALS AFFECTING METAL CLADDING

8.4.23 Existing metal cladding should be repaired rather than replaced. Where works are proposed to a corrugated-iron structure or any metal-clad structure, any proposed new sheeting should match the existing in terms of weight, profile and finish. Existing details should be replicated, except where the original cladding had inherent faults which led to failure, such as the use of overlarge metal sheets or incorrect fixings that caused cracking of the cladding. Where there was an inherent design fault, the metal cladding will require replacement to an improved design. Cracks should not be repaired with solder or with sealant, as these repairs will often cause further problems at a later stage.

Terracotta, faïence, Coade stone and ceramic tiling

IDENTIFYING SPECIAL FEATURES FOR PROTECTION

8.4.24 The external use of terracotta and faïence cladding on buildings in Ireland generally dates from the late nineteenth and early twentieth centuries. Good quality design and craftsmanship and examples of decorative detailing may be suitable for protection.

8.4.25 Coade stone is a proprietary fired-clay material used for the production of architectural ornament such as plaques, friezes, statues etc. This highly durable material was produced at a factory in Lambeth, in south London between c.1770 and c.1840. Where this type of ornament exists on a protected structure, it is a feature that should be identified and protected.

8.4.26 The external use of glazed ceramic tiling, faïence or glazed terracotta is generally associated in Ireland with shopfronts, although there are examples of glazed brick used as external facing. Where examples of tiling contribute to the character of a protected structure or an ACA, they should be retained.

CONSIDERATION OF PROPOSALS AFFECTING SUCH CLADDING

8.4.27 These products are generally long lasting provided water penetration can be prevented. If the fireskin of a fired clay unit is breached, there can be a rapid deterioration of the weaker underbody of the element. The fireskin or the glazing can be defective due to poor original firing, but they will also be damaged by aggressive cleaning methods such as grit-blasting.

8.4.28 Repairs or cleaning of fire clay products, where necessary, should be carried out only by specialist conservators. Painting of these elements or their replacement in alternative materials should not normally be permitted. Large-scale repairs with mortar are not appropriate nor is the facing-up of damaged terracotta with mortar followed by overall painting, as this will materially alter the character of the building and may cause further damage and deterioration to the fabric.

Slate-hanging

8.4.29 Slate-hanging was often applied to exposed external walls and chimney stacks to provide extra protection from the weather. Where slate-hanging exists it should be preserved and carefully repaired. Particular care should be taken to identify and protect any slates that are of decorative shape or carved with dates or initials.

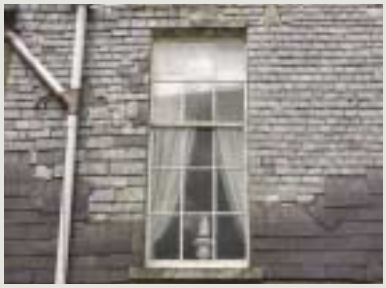
Arts-and-Crafts wall cladding

8.4.30 Late nineteenth and early twentieth century buildings of the Arts and Crafts style experimented with a variety of cladding materials and methods. These included clay tile-hanging, exposed timber framing, pebble-dashing, timber weather-boarding and others. These finishes are essential to the character of these buildings and all original materials and their detailing should be identified, and retained.

Terracotta, faïence and glazed ceramic tiles are all used to good visual effect in cladding or decorating the walls of buildings

Materials such as terracotta and faïence tend to be very durable. However, they can be damaged by aggressive cleaning methods. In this case, a later paint finish, together with the original fireskin of the terracotta, have been removed, exposing mortar repairs and old defects and leaving the ceramic vulnerable to future accelerated weathering

Cladding walls with slate was often done to protect structures, or parts of structures, on elevations exposed to prevailing winds. Slate-hanging often includes decoratively-cut slates or banding using fishscale patterns. Its use may be a regional characteristic



Slate-hanging should be carefully repaired where necessary using slates of a matching size and colour, with additions such as downpipes and vents carefully sited and fixed in order not to cause damage

8.4.31 Where repairs are necessary to such cladding materials they should be carried out in accordance with the relevant section of these guidance notes.

8.5 Exterior Fixtures and Features

8.5.1 Protection includes all fixtures and features which form part of the exterior of a protected structure and contribute to its special interest. In some cases it may be difficult to establish whether or not a particular object or feature is a fixture. Although not defined in the Act, the term 'fixture' implies a degree of physical annexation together with indications that the annexation was carried out with the intention of making the object an integral part of the structure. However, free-standing objects may be considered fixtures if they were placed in position as part of an overall architectural design. For example, the external walls of a public building may contain statues or other carvings within niches which, while they may or may not be physically fixed to the building, were designed or made to fit a specific space to form part of the design. In some cases, the planning authority may need to take expert advice on assessing the contribution of the object to the character of the protected structure where there are proposals to alter or remove that object.

IDENTIFYING EXISTING FIXTURES AND FEATURES FOR PROTECTION

8.5.2 Exterior fixtures and features of architectural metalwork on walls such as railings, cresting, balustrades and anchor plates are usually an essential part of the character of a protected structure.

8.5.3 Balconies and verandas can be important original architectural fixtures and features on many buildings, usually dating from the nineteenth and twentieth centuries. They may also be additions to earlier buildings. Where these are original features or additions of quality, they should be retained. Because fixtures and features such as balconies by definition tend to be exposed elements, they often give rise to maintenance problems and, as a result, have been removed. Surviving features are therefore increasingly rare and should be preserved, where possible.

8.5.4 Other fixtures and features such as date-stones, fire insurance plaques, commemorative plaques and carvings, statues, inscriptions, coats of arms etc. are equally part of the history of a building, even where they are later additions, and should be retained in situ. Old lettering and shop signs may be more difficult to retain when premises change ownership, but efforts should be made to identify and retain examples that are of particular interest or quality.

Arts and Crafts style cladding can feature a variety of materials and cladding types. As shown here, materials such as brick, half-timbering and tiles are juxtaposed to form visually attractive patterns

Exterior fixtures and features vary widely in size, function and materials. Some, such as the lead gas lamp illustrated here, have been adapted to electric light and continue in use. But, even where redundant, such fixtures and features are often important to the character of a structure or area, in addition to being well-crafted items in themselves

Carved stone plaques are found most often on the walls of public buildings such as schools and churches – as with this wall monument - but many domestic buildings also have datestones. Whether or not the structure has changed use or the carving is now illegible, efforts should be made to retain interesting plaques or monuments in situ

CONSIDERATION OF PROPOSALS AFFECTING FIXTURES AND FEATURES

Existing exterior fixtures and features

8.5.5 The appearance of a protected structure or any other historic building will be materially altered by the removal of architectural features from walls such as balustrades, string courses, brackets and others. The removal of such features would be detrimental to the character of the building. Where works to a structure require the temporary removal of a feature or fixture, it should be replaced in its former position within a time frame specified by the planning authority.

8.5.6 The removal of elements such as balconies, balconettes and verandas should not be permitted without careful consideration of the potential effects

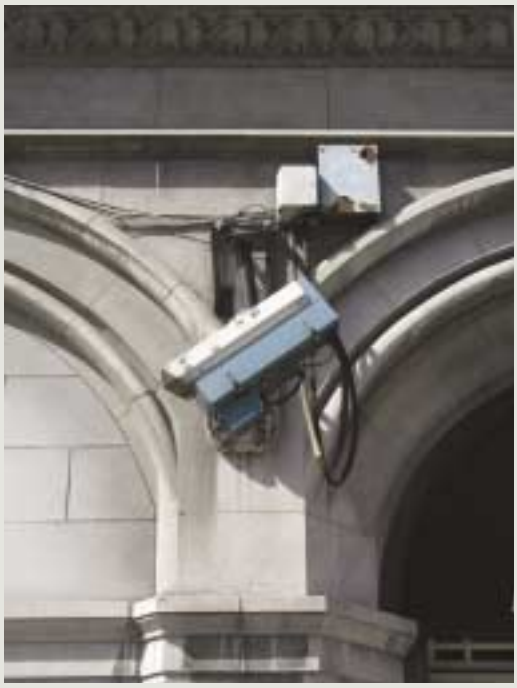
on the character of the building. Where these elements are later additions to a structure and they cut across or conceal work of a higher architectural quality, a judgement will have to be made on whether or not to remove the later work. In such cases, where the addition is relatively recent and of little architectural merit, it may be acceptable to permit careful removal. Proposals to glaze in balconies, verandas and the like, where they were originally intended to be open, should be treated with caution as this may adversely affect the appearance of a protected structure or the character of an ACA.

New items fixed to the exterior of the building

8.5.7 Careful consideration needs to be given to proposals to fix new items to the exterior of a protected structure. Permission should usually only be given for fixtures that respect the architectural design of the structure and do not detract from its appearance. Examples of types of fixtures which may be proposed could include floodlighting, entry phones, name plates or signboards, information plaques, alarm boxes, satellite dishes, window-cleaning eyes, or plastic utility boxes such as gas and electricity meters.

8.5.8 The applicant should be able to satisfy the planning authority that matters such as the location of fixtures, associated cable runs, light fittings and so on have been properly considered and would not detract from the appearance of the protected structure, the setting of other protected structures or the character of an ACA. Consideration should be given to the effect the methods of fixing proposed may have. Many fixing methods will cause damage by staining or fracturing the material into which they are fixed. The presence of a fixture which requires painting, cleaning or lubrication will usually result in splashing or staining of the adjacent building fabric. If the fixture is changed or removed, holes left may remain visible even after careful repair. Fixing should be carried out in a manner that minimises the visual impact upon the building and avoids physical damage to the fabric. Fixing into existing joints or holes may be acceptable.

8.5.9 Automatic teller machines, where their installation is permitted, should be accommodated within existing openings wherever possible. Proposals to create new openings for such machines should be discouraged. Those which cut through important architectural features or disturb elevational symmetry, should be refused permission. The use by major retailers or commercial organisations of



Fixtures or features fitted without thought as to their visual impact can adversely affect the character of a structure or area. The removal – or resiting – of such items should be encouraged whenever possible. The method of fixing should be reversible and, on stone or brick façades in particular, made into existing joints rather than through the masonry to avoid scarring

The removal of signs may cause or exacerbate existing problems. In this case rusticated masonry was cut out to recess the sign. Now that the sign has been removed, the damaging consequences of the work are all too obvious

corporate colours and lettering on the walls of a protected structure is not appropriate in most instances and should be discouraged.

External plumbing, flues, vents and cabling

8.5.10 The appearance of many historic buildings will be marred by the addition of external plumbing, especially where it cuts through or across architectural features or disturbs the symmetry of an elevation. Planning applications for works to protected structures or buildings within ACAs should include on the drawings the location of all proposed external plumbing, flues, vents and cabling to allow for a complete assessment of the proposals. The planning authority should be aware that some proposed changes of use will require additional flues and pipework.

8.5.11 Change of use or upgrading can lead to a proliferation of pipework associated with new kitchens or bathrooms. Every effort should be made to avoid the introduction of new external pipework or cabling, particularly on the primary elevations. Proposals that include kitchens and bathrooms on these elevations should therefore be discouraged, if the pipework cannot be satisfactorily accommodated internally.

8.5.12 The addition of external flues should be avoided wherever possible and not be allowed to interrupt important elevations. Vent pipes should not generally be permitted on the roofs of principal elevations. In cases where new external pipework or flues are agreed, the additions should be painted to blend in with the wall surfaces so as to minimise their visual impact.

8.5.13 Where the opportunity arises, the removal or rationalisation of any existing added pipework and cabling that disrupts architectural features or elevations should be considered. The use of extruded aluminium or plastic drainage and rainwater goods and their associated fittings on a protected structure is rarely appropriate and should generally not be permitted.

The ill-considered fixing of new items such as pipework to the principal elevations of structures can adversely affect their architectural quality and cause physical and irreversible damage, as has happened in this case where a fine architectural element has been cut through to facilitate the location of a new pipe