



DUMFRIES AND  
GALLOWAY COUNCIL

# Local Development Plan

## Supplementary Guidance

Adopted 20th August 2015



## *Conversion of Traditional Agricultural Properties*

The development and production of this design guidance for the conversion of traditional agricultural properties was delivered through the Sulwath Connections Landscape Project, funded by the Heritage Lottery Fund, Scottish Natural Heritage and Dumfries and Galloway Council.



# Contents

## **PART 1 INTRODUCTION**

- 1.1 Introduction
- 1.2 Why is the guidance needed?
- 1.3 Legislation and guidance

## **PART 2 APPROACH**

- 2.1 Are buildings suitable for reuse ?
- 2.2 The need for appraisal
- 2.3 Character Appraisals

## **PART 3 CONVERSION PRINCIPLES for SETTING, SITING MASSING AND PROPORTION**

- 3.1 Landscape Setting
  - 3.1.1 *A Changing Landscape setting*
  - 3.1.2 *Design Principles: setting*
- 3.2 Siting
  - 3.2.1 *Groups of traditional agricultural buildings*
  - 3.2.2 *Design Principles: siting*
- 3.3 Massing and proportion
  - 3.3.1 *Different types of traditional agricultural buildings*
  - 3.3.2 *Design Principles: massing and proportion*
  - 3.3.3 *Design Principles: extensions and new buildings*

## **PART 4 RELATIONSHIP TO ENVIRONMENT**

- 4.1 Outside spaces
- 4.2 Access
- 4.3 Parking
- 4.4 Services

## **PART 5 MATERIALS and CONSTRUCTION DETAILS**

- 5.1 Overview
- 5.2 Design Principles

## **PART 6 CONTEMPORARY EXEMPLAR CONVERSIONS**



# 1.0 INTRODUCTION



## 1.1 INTRODUCTION

Traditional agricultural buildings are an important part of Dumfries and Galloway's characteristic agricultural landscape and make a significant contribution to its scenic and landscape character. They provide a direct and important link to the past – a physical reminder of the area's cultural heritage.

This design guidance is part of a suite of documents intended to promote the conservation of built landscape features, and encourage their ongoing use and preservation.

This Guidance specifically deals with traditional agricultural buildings - defined by Historic Scotland as buildings *"of traditional construction built before 1919 – they include but are not confined to Listed buildings or buildings within conservation areas"*

### **(Historic Scotland Guide for Practitioners 6; Conversion of Traditional Buildings)**

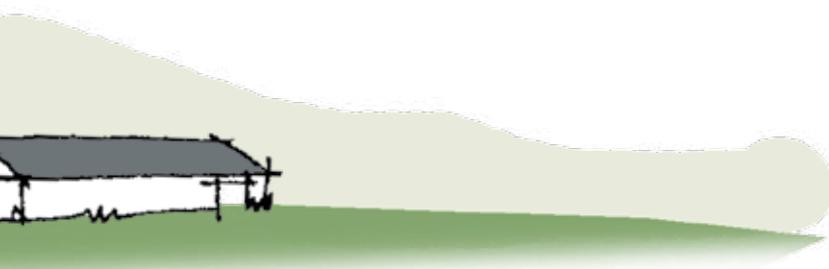
The guidance is intended as an introduction to a "best practice" approach to the reuse of traditional farm buildings. It explains why traditional agricultural buildings are important, what is special about them, and how they can be sympathetically reused - thus promoting the sustainable, evolving reuse of existing farm buildings.

## 1.2 WHY IS THE GUIDANCE NEEDED?

Since the Second World War the number of farms has reduced by around a third as farms have amalgamated and activity has been transferred away from many traditional agricultural building groups. Many traditional agricultural buildings are unsuitable for modern use and have fallen into disrepair as the costs involved with sympathetic conversion can be high and traditional building skills are declining.

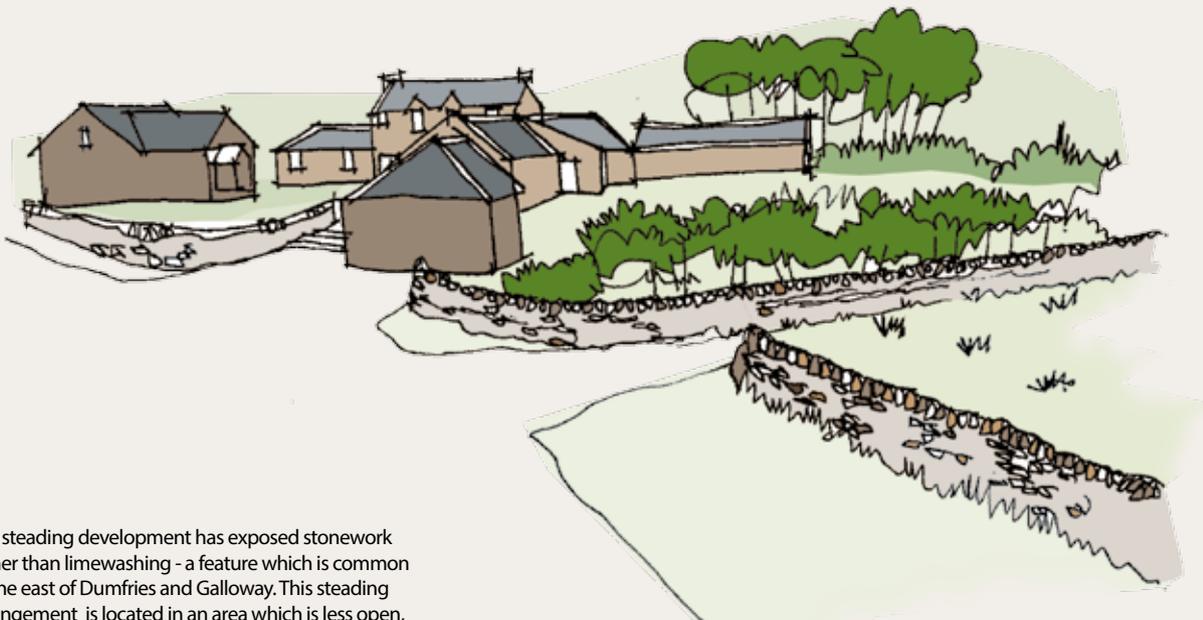
Nevertheless, these buildings are an important opportunity for sustainable redevelopment. There is a shortage of rural housing and a need for affordable solutions which can assist in the continuing economic success of what are often remote rural areas. The conversion of farm buildings also provides a chance to promote high quality design which utilises local materials and traditional building skills.

**This guidance is therefore intended to promote sustainable, evolving solutions based upon thoughtful designs developed specifically for their location.**





this type of steading uses regionally distinctive massing and materials which are associated with a more open landscape in the south west, close to the coast.



this steading development has exposed stonework rather than limewashing - a feature which is common to the east of Dumfries and Galloway. This steading arrangement is located in an area which is less open, where there is more woodland

## 1.3 LEGISLATION AND GUIDANCE

Farm buildings form an important part of the built heritage of Scotland, being a physical record of agricultural and technological developments, and of social and economic change. This importance is reflected in recent legislation and guidance .

### Listed Building Status

The Scottish Government has compiled a List of buildings of special architectural or historic interest - a task executed by Historic Scotland, with a List maintained by Dumfries and Galloway Council. To date Historic Scotland has listed over 1800 farms, mills or steadings in Scotland - this equates to just over 4% percent of the total of listed buildings. Listing is not intended to prevent conversion, alteration or extensions; instead the aim is to preserve the character of the building, manage change and promote their maintenance, care and respect. Listed buildings are divided into three categories:

- **Category A:** Buildings of national or international importance or fine examples of a particular period, style or building type.
- **Category B:** Buildings of regional or more than local importance or good examples of particular period or style.
- **Category C:** Buildings of local importance or lesser examples of any period or style.

**If a traditional agricultural building is Listed it will require Listed Building Consent before any alterations or additions are carried out.** Some changes to Listed buildings may seem minor but can have significant long term implications (for example material choices which impact on the “breathability” of the existing structure, or cleaning stonework). **Because of their potential impact, even apparently small changes may need a Listed Building Consent, so it is sensible to take advice before any work is carried out to a Listed Building.**

### Current Planning Policy for rural areas

Dumfries and Galloway Council’s **Local Development Plan** sets out the planning policy for the region - the means by which the Council assesses development proposals.

The Local Development Plan is supported by **Supplementary Guidance** which contains detailed guidance on the policies, and are a material consideration in assessing planning applications.

The Councils Supplementary Guidance documents that should also be considered when converting traditional agricultural buildings are:

- **SG Housing in the Countryside;** this guidance provides explanation on each of the policy criteria, which includes conversion of a traditional buildings, and guidance on how they will be applied.
- **SG Design Quality of New Development;** this guidance is applicable to all types of development, with the focus on residential development. Its purpose is to help deliver a higher quality of new development. It sets out a number of design principles that may also be considered in the context of traditional farm buildings.
- **SG the Historic Built Environment;** this guidance sets out how Dumfries and Galloway Council will ensure the preservation and enhancement of the region’s historic built environment.

Other additional supplementary guidance may be produced in the future, and this will also be relevant to the conversion of traditional agricultural buildings.



## 2.0 APPROACH

All good, traditional farm buildings contribute to Dumfries and Galloway's heritage and are an important historical record.

New interventions to these properties should not, therefore, detrimentally alter their essential character and should be built upon an understanding of the history, development, significance and setting of each group of buildings.

## APPROACH

# APPLYING THE PRINCIPLES OF “INFORMED CONSERVATION”

## 2.1 Are buildings suitable for reuse ?

Developers need to balance the practical requirements of a new use (such as conversion to a new home) with the need to protect the special characteristics of traditional agricultural buildings.

**A minority of buildings will not be suitable for reuse;** for example , because of:

- **their scale:** some traditional agricultural buildings have floor to ceiling heights which are very low (under the SBSA minimum of 2 metres for habitable rooms).
- **their importance:** some traditional agricultural buildings are an important part of a wider estate development, or have a specific historic or cultural significance.
- **their location:** some traditional agricultural buildings are in very remote locations which are difficult to access or service, other buildings may only be accessible by passing very close to other occupied premises or working farms.
- **their condition:** some buildings will be in such poor condition that they would have to be demolished and rebuilt or would be likely to collapse during works on site.

**Some traditional agricultural buildings will only be suitable for “functionally compatible” uses:** for example where buildings are historically important and have a specific character it may be difficult to alter them without changing the building fabric. They will fare best when re used for storage, stables or workshops – uses which are similar to those for which they were originally designed.

**Some traditional agricultural buildings will be suitable for a more radical changes of use:** but the requirements of modern lifestyles need to be balanced with the massing and materials used by older buildings.

## 2.2 The Need for Appraisal

Before purchasing a traditional agricultural building , or starting work on proposals, it is important to determine the likely risks involved - in terms of cost, funding sources, timescale and buildability. Advice at this stage from an experienced builder, engineer or architect can be invaluable, as can advice from Dumfries and Galloway Council’s Planning and Regulatory Services, and local specialist interest groups.

## 2.3 Character Appraisals

Design proposals should always be based upon a bespoke approach, tailored to the specific characteristics of individual buildings.

It is essential to carry out an appraisal before the start of any design in order to determine the right way to go about conversion. Consideration of a building’s fabric, details of its previous use, and examination of its wider context can provide valuable clues towards the way in which it can be appropriately adapted and will assist designers to develop more appropriate and better integrated additions and extensions.

Compilation of this kind of background information can also be invaluable when discussing proposals and presenting a case for a specific design approach to the Council, funders and any other interested parties such as Historic Scotland.

**It is important to develop an Appraisal Process which is proportionate to the importance of the property. Not every group of farm buildings will require the same level of investigation and analysis.**

Sometimes - where minimal intervention is anticipated – all that is needed is a rapid overview of the

## APPROACH

# APPLYING THE PRINCIPLES OF “INFORMED CONSERVATION”

site and of existing buildings by the designer.

In other cases – for example where buildings are Listed, or in a National Scenic Area, or more extensive works are anticipated – a more comprehensive and developed **Design Statement** will be needed. Input can be required from a wider range of professionals - from archaeologists, architects, and conservators. In this case, a Design Statement is likely to be a longer document which will be compiled by a conservation professional with relevant recent experience. Survey work can be augmented by historical research.

### **Typically, an appraisal should include consideration of the following:**

- Recording what is there: demonstrated by measured surveys, condition surveys, photographs
- Deciding on its importance: an assessment of the site’s historical and cultural significance
- Determining what changes are appropriate: how these can be minimised when it comes to a building’s particular and distinctive features
- Deciding how to manage change: to retain or preserve the essential character of buildings or locations

### **Surveys and Reports**

Issues which relate to traditional farm buildings and their setting include:

**BUILDING RECORDING:** appropriate recording of existing buildings for submission to the Council’s Historic Environment Record.

**STRUCTURAL REPORTS:** Planning permission will normally only be granted if the building is in a reasonable condition and will not require demolition and rebuilding. In order to avoid doubt as to the structural condition of the building a Structural Engineer’s Report may be needed to confirm that reuse is possible.

**WILDLIFE AND ECOLOGY:** It is not surprising that redundant farm buildings may be home to species protected by legislation:

- The Wildlife and Conservation Act 1981
- The Conservation (Natural Habitats &c) Regulations 1994
- The Nature Conservation Act (Scotland) 2004

This legislation does not just protect the animals themselves – it also protects their roosts and nests even when the animals are not there. Redundant farm buildings may often support roosting bats (at any time but mostly in winter). It is illegal to deliberately or recklessly kill, injure, disturb or capture bats but it is also illegal to damage or destroy the breeding sites or resting places of such animals

A bat survey and report is likely to be required as part of the Planning Consent Process. This will detail any evidence of roosting and visiting bats, and any mitigation required. Barn Owls are the other legally protected species most likely to be encountered. Professional advice should be sought if they are thought to be present. In many cases, well designed conversions can continue to provide space for both bats and owls.

### **Useful sources of information include:**

- **early Ordnance Survey maps:** available on line from the National Library of Scotland
- **the Scottish Record Office:** estate papers, entail records and the National Register of Archives listing papers
- **‘Pattern Book’ publications of the early nineteenth century:** includes J C Loudon’s Encyclopaedia of Cottage, Farm and Villa Architecture in its various editions from about 1833, and William J Gray’s ‘A Treatise on Rural Architecture’ (1852).



## 3.0 PRINCIPLES

This Guidance Document promotes good quality, contemporary interventions and improvements to traditional farm buildings. It recommends that these should be generated from an understanding of the specific character of the “place” in which they are located.

This character is derived from the landscape setting, architectural character, and history and culture associated with each and every group of buildings.

# 3.1 LANDSCAPE SETTING

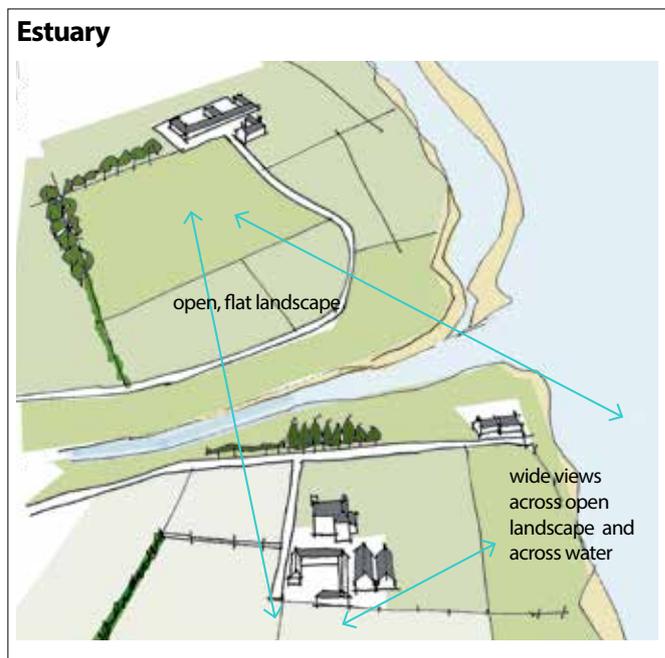
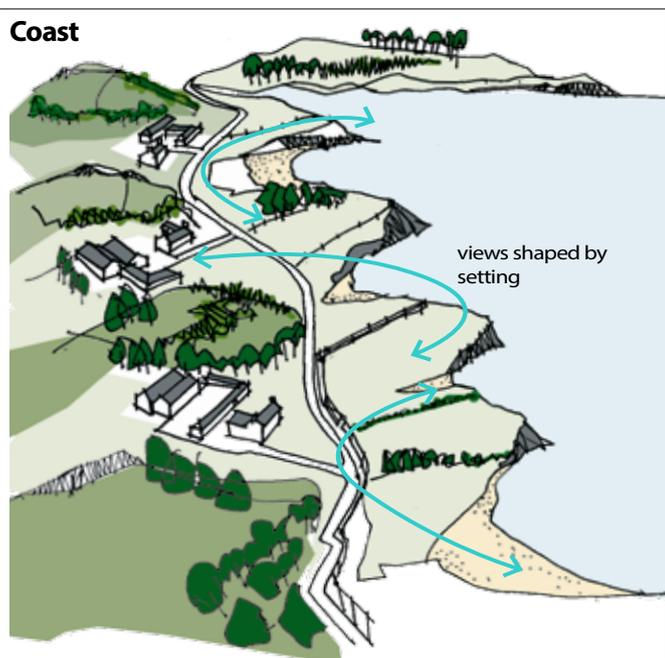
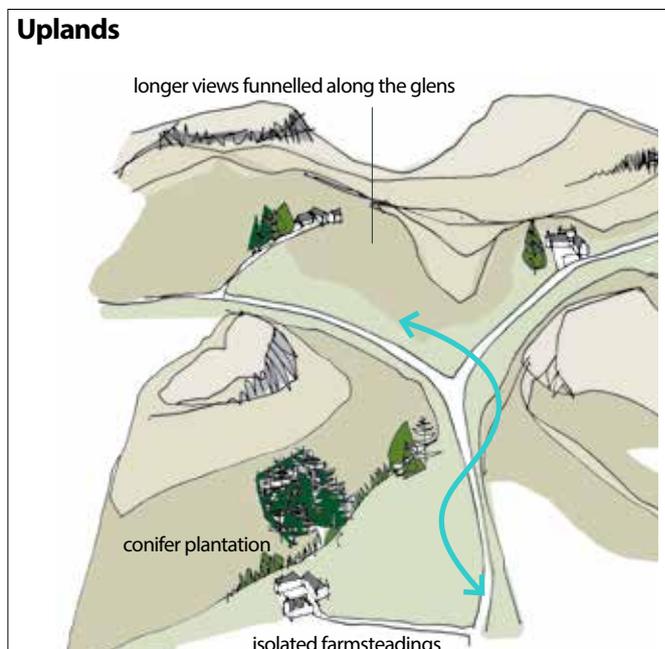
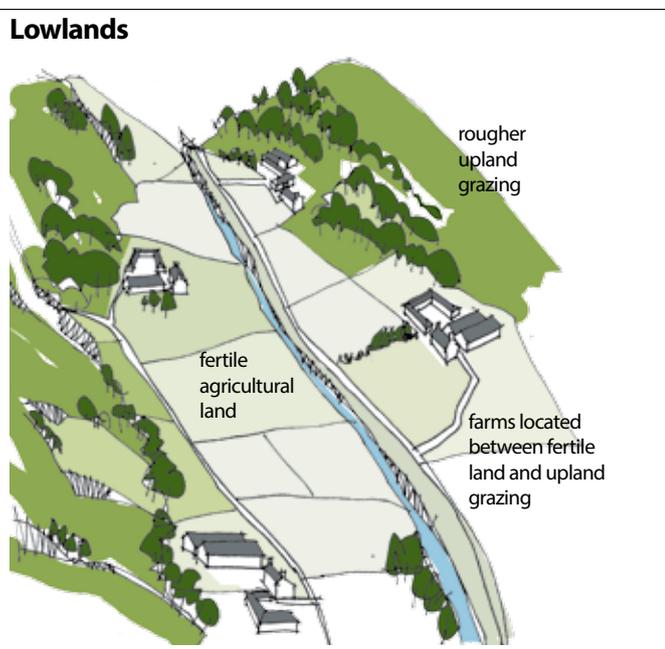
## 3.1.1 A CHANGING LANDSCAPE SETTING

Traditional agricultural buildings make an important contribution to the way in which we experience Dumfries and Galloway's agricultural landscape.

Although there are some buildings which stand alone, the majority of traditional agricultural buildings form part of a tight, close knit group generally referred to as a farm 'steading'. These groupings are often separate from farm houses and were generally centred within each farm's allocation of agricultural land.

In some locations, traditional agricultural buildings sit within a flat, open landscape where they are very prominent and can be viewed from a significant distances away. In other locations, they sit within an undulating and often rocky landscape which shapes and frames a series of constantly changing views, as you travel through the countryside. Often they are located on higher ground between cultivated land and rougher upland grazing, which means that they share a similar type of location as their neighbours.

**Siting, and the spacing between groups of buildings can vary - depending on their location within Dumfries and Galloway's distinctive and varied landscape.**





**1-2 Uplands;** 1 - north of Penpont; 2 - south east of Moffat  
**3-5 Valleys;** 3 - near Southwick; 4 - near Moffat; 5 - near Anwoth  
**6-8 Dales;** 6 - Mouswald; 7 - north east of Annan; 8 - north of Annan

## 3.1 LANDSCAPE SETTING

### 3.1.2 DESIGN PRINCIPLES: SETTING

When developing proposals for the reuse of existing traditional agricultural buildings, designers need to consider :

**IMPACT ON VIEWS;** remember that groups of traditional agricultural buildings are one small component within the wider landscape. Even small changes to existing properties can have a disproportionate visual impact when they are viewed across long distances. Any changes or additions should complement and integrate with their wider setting.

- Very carefully consider (or avoid) development which intrudes above the horizon, when viewed from a distance.
- Consider using materials, massing and construction details which will complement their setting; (this does not exclude the use of contemporary, new materials or details – but where they are used they should not look out of place in the countryside).

**INTEGRATION WITH LANDSCAPE FEATURES;** consider how properties can be extended or located so that they complement adjacent landscape features – such as existing groups of trees, field boundaries and local topography.

- Avoid cutting back, altering or removing existing planting as far as possible.
- Avoid significantly reshaping local topography; for example creating larger, visually intrusive platforming for extensions or any new associated development.
- Use similar types of walls and fencing at gardens and boundaries to that which is there already.

**LOCATION IN THE LANDSCAPE;** new additions and extensions should be located in a similar way to neighbouring groups of traditional agricultural buildings.

- Ensure that any additions and extensions to existing traditional agricultural buildings maintain a tight, distinct grouping, and do not extend into the landscape.
- Any new associated buildings should be located so that they form part of an existing group of traditional farm buildings.

Consider the visual impact of proposals on views across the landscape  
Even small changes to existing properties can have a disproportionate visual impact when they are viewed across long distances.



## 3.2 SITING

### 3.2.1 GROUPS OF TRADITIONAL AGRICULTURAL BUILDINGS

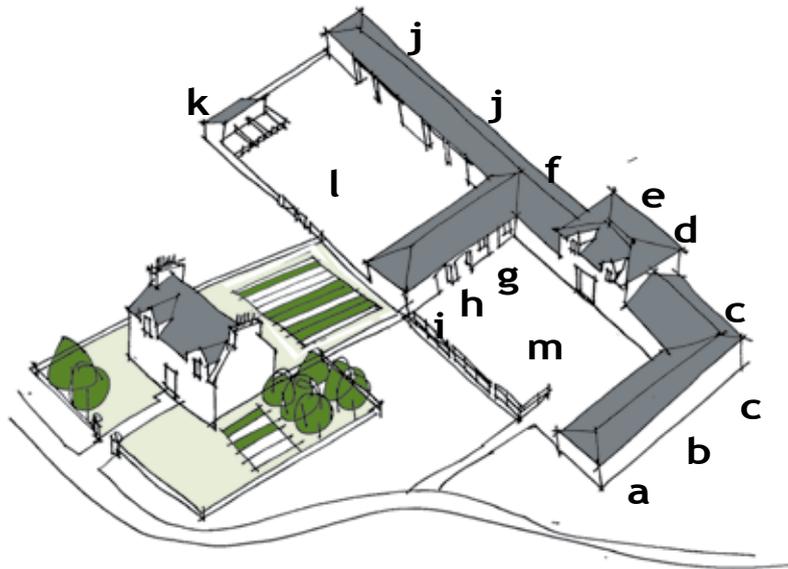
Traditional agricultural buildings are an important historical record of part of Dumfries and Galloway's agricultural past and they are a record of innovation and invention.

The 1707 Act of Union began a period of rapid change in Scottish agricultural practice and landowners looked to their estates with a view to improvement; land was enclosed and older farm buildings replaced with new 'Model Steadings'. The use of common materials and itinerant tradesmen meant that "standard" regularised patterns for farmsteadings rapidly started to develop.

Designers went on to develop pragmatic layouts for agricultural buildings based upon their observations of the requirements of individual types of livestock, and studies of the most efficient ways of processing and storing farm produce. Pattern books such as JC Loudon's "Encyclopaedia of Cottage, Farm and Villa Architecture" illustrated 'best practice' layouts for the widest possible range of agricultural buildings.

### A mixed stock farm in upland country\*

- a potato house
- b house for young cattle
- c cow house
- d corn barn
- e house for holding wool
- f hay house
- g stable
- h cart shed
- i poultry house
- j sheep sheds
- k pigsties
- l sheepyard
- m yard for dung



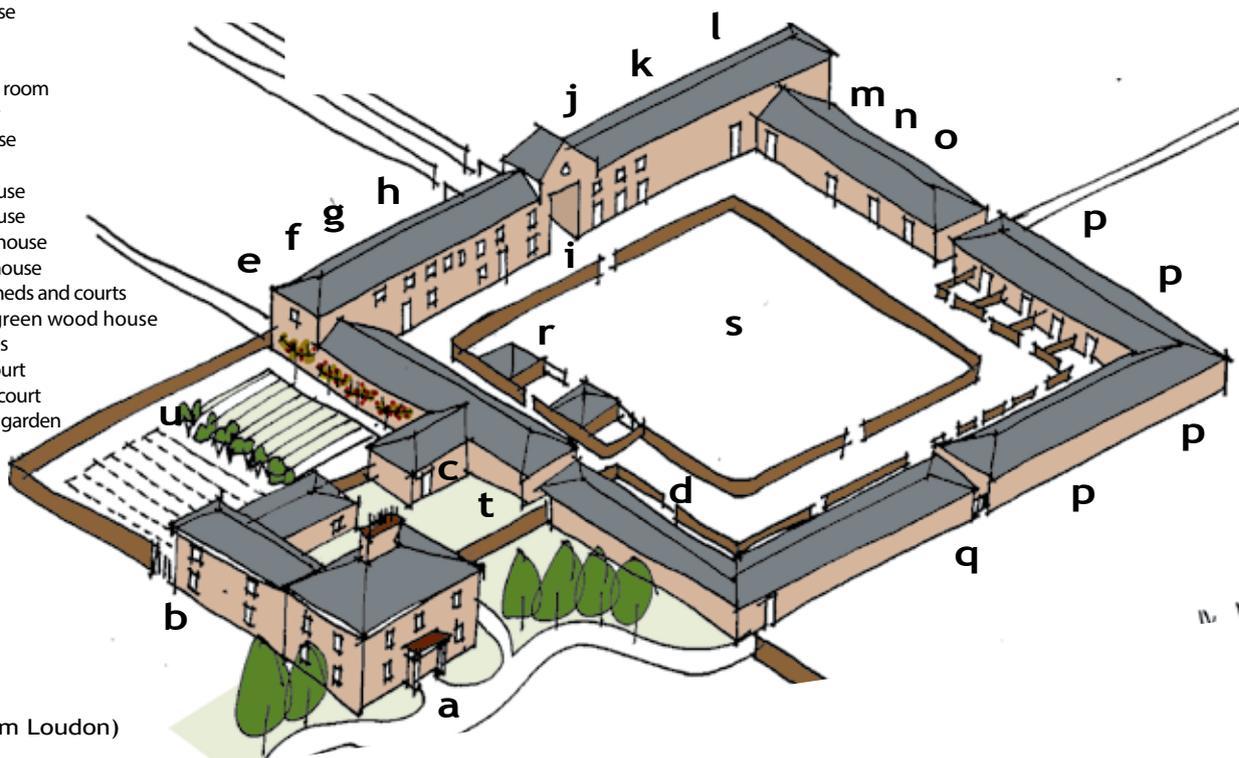
(\* from Loudon)

**Smaller farms in upland areas** required the smallest steadings as sheep needed a minimal amount of covered accommodation (chiefly used during the lambing season) and – in poor weather – they were enclosed in shielings on the hillside. In some locations and for smaller steadings, older farms with house, byre and stable sit in one long range.

**Larger Arable Farms** were often part of Estates who employed local architects to design model steadings and often developed their own distinctive style. At Drumlanrig, the architect Walter Newall was responsible for a number of distinctive larger steadings which were then published in Loudon's Encyclopaedia.

### A "farm house and farmery at Halstone in Dumfriesshire"\*

- a farmhouse
- b dairy
- c steaming and boiling house
- d cowhouse
- e hayhouse
- f stables
- g stables
- h harness room
- i gateway
- j cart house
- k barn
- l strawhouse
- m calf house
- n potato house
- o turnip house
- p cattle sheds and courts
- q hay & green wood house
- r piggeries
- s dung court
- t kitchen court
- u kitchen garden



(\* from Loudon)

Most traditional agricultural buildings share some common characteristics, and these are detailed on the following pages:

- Farm buildings are arranged around a courtyard, or a number of courtyards

*“The most convenient arrangement of a farmery is in the form of a rectangle, the side to the south being open; and the farm house being placed at a convenient distance in front of it”*

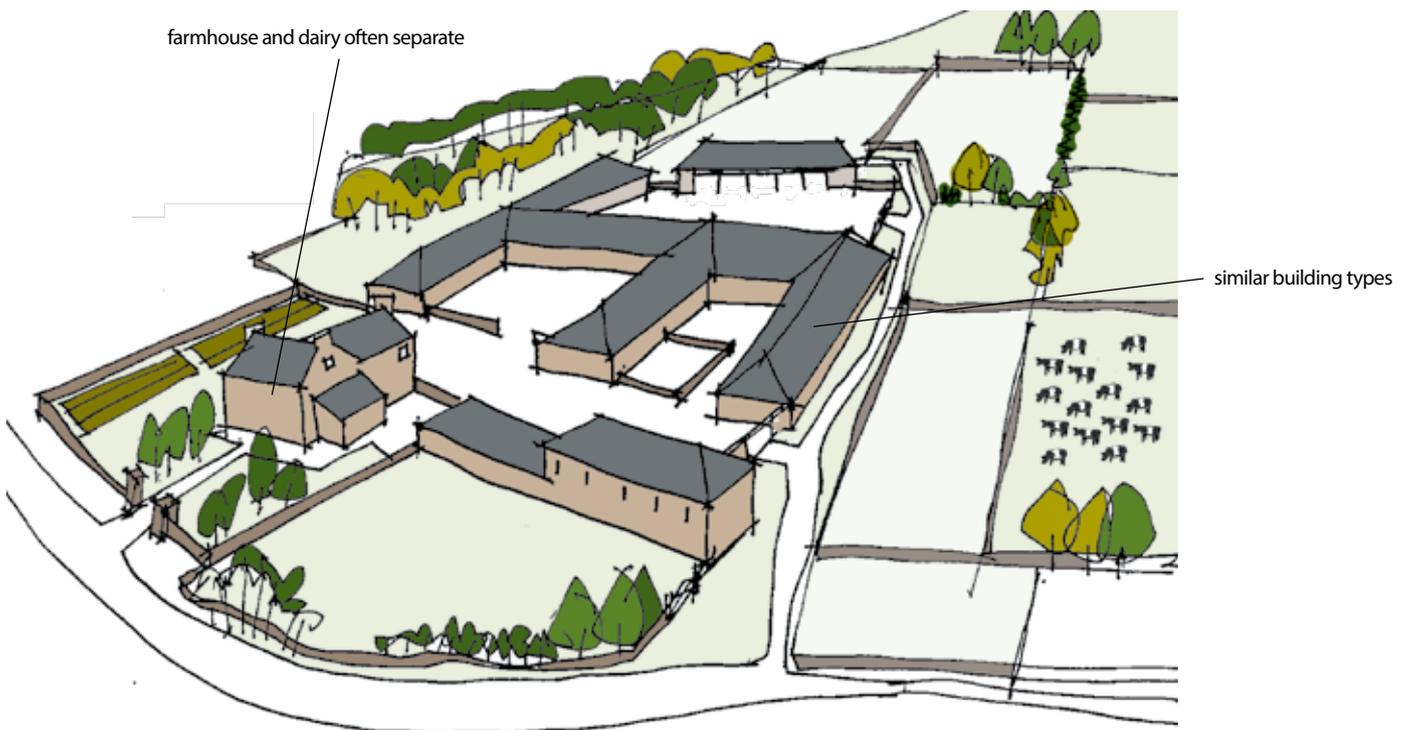
**Loudon’s “Encyclopaedia of Cottage, Farm and Villa Architecture”**

Although some agricultural buildings tend to stand alone (for example mills and some field barns) the majority of them are grouped together - sometimes linearly but more often around a courtyard. The sheltered courtyard shaped by farm buildings is one of the most attractive features of a steading and its character is as important as that of the buildings which surround it. Many yards were simply left as earth, others were laid with cobbles, setts or concrete.

Within Dumfries and Galloway most (but not all) farmhouses are generally set apart – often these can take the shape of a fine villa with its own garden grounds and walls.

- Similar building types share the same massing and proportions

Each building in a steading grouping is often very similar to its neighbours, utilising the same materials and construction details. Ground floor to eaves heights tend to be very similar if not the same and openings tend to have the same general dimensions.



## agricultural buildings shape spaces :

1 steading group north of Moffat with tarmaced court

2 near Bentpath - court completed with stone dyke for enclosure

3 Kirkcowan - house stands separately but completes courtyard enclosure

4 Mossyard - cobbled court



## 3.2.2 DESIGN PRINCIPLES: SITING

When developing proposals for the reuse of existing traditional agricultural buildings, or any associated development (such as additional new buildings to complete an existing grouping), designers need to consider :

### EXISTING DEVELOPMENT PATTERN

Traditional agricultural buildings are grouped together in a very distinctive and commonly recognised way, any new additions and extensions should be carefully located so that this distinctive identity is retained.

### FRAMING AND ENCLOSING EXTERNAL SPACES

An important characteristic of traditional buildings is not only their massing, scale and construction but the external spaces which they shape.

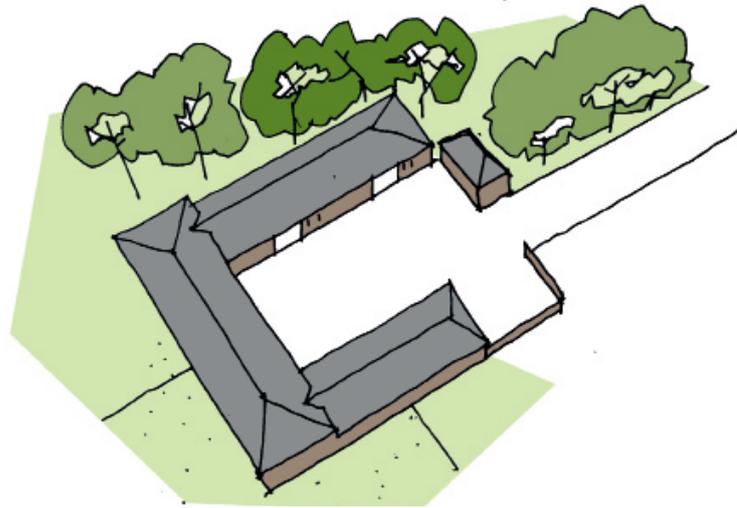
- **Courtyards should be retained as open, shared spaces** and any extension or new development within existing courtyards should be very carefully considered.
- **Designers should retain the same access arrangements as far as possible.**

### ADDITIONS TO EXISTING BUILDINGS: EXTENSIONS AND NEW BUILDINGS

Over the years, groups of farm buildings have evolved to suit new uses, and because of the small scale of traditional farm buildings they often cannot be successfully reused without extending them.

With the extension and adaption of existing buildings and the construction of new buildings; contemporary redevelopment can continue to follow this evolving pattern. Where extensions and new buildings are proposed, designers should consider:

- **Locating them sympathetically as part of an existing building group:** Any additions should use the same development pattern as the group of buildings of which they form a part. For example - where existing groups are to be significantly extended, consideration could be given to the way in which farmers would have approached this in the past, and a similar approach taken .
- **Identify opportunities to enhance existing buildings:** An important characteristic of many groups of traditional farm buildings is the way in which they shape sheltered outdoor spaces. Sometimes an existing grouping may include a range of different buildings which do not sit well together. In these circumstances, new extensions may have the potential to improve a grouping by being sensitively located in relation to existing buildings.
- **Using similar proportions, scale and massing:** Proposals should be small in scale, and with the same simple proportions as their existing neighbours (bearing in mind the need to comply with current standards and guidance).
- **Enclosing spaces in a similar way:** Retaining existing courtyard spaces and accessing new properties in a similar way to their older counterparts.

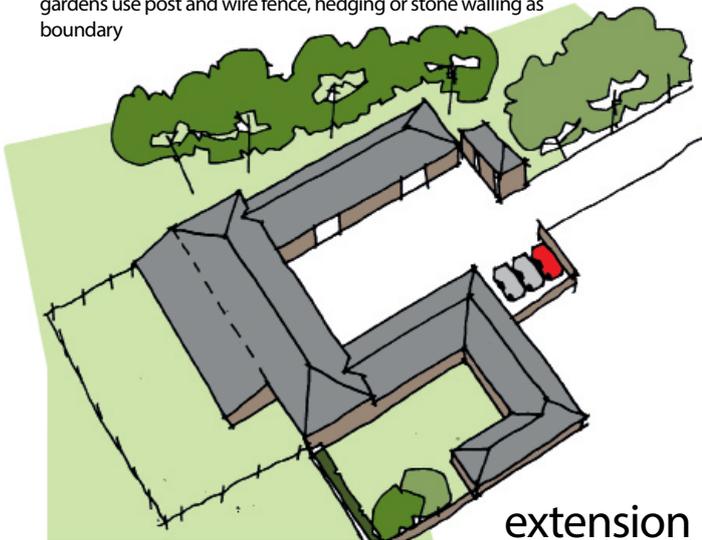


original group of traditional agricultural buildings

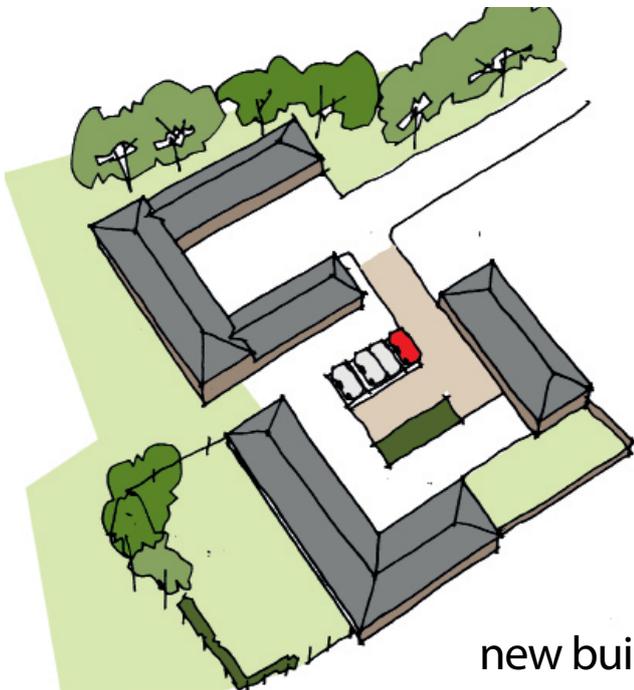


### better development

- extensions and new buildings located similarly to existing building
- existing planting retained
- cars screened by wall or located within courtyard
- building group continues to be accessed in the same way
- gardens use post and wire fence, hedging or stone walling as boundary



extension

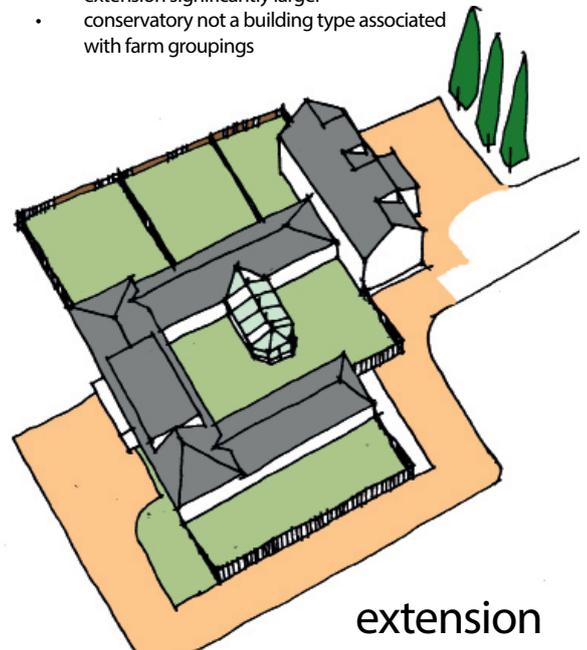


new build



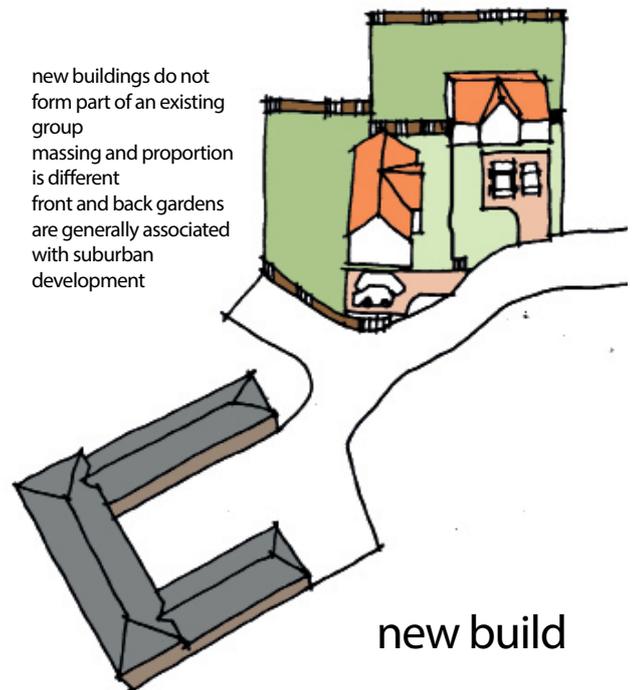
### where it goes wrong

- extension significantly larger
- conservatory not a building type associated with farm groupings



extension

- new buildings do not form part of an existing group
- massing and proportion is different
- front and back gardens are generally associated with suburban development



new build

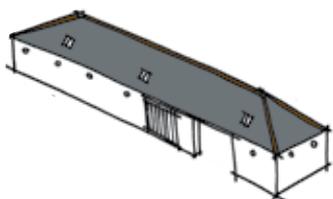
# 3.3 MASSING AND PROPORTION

## 3.3.1 DIFFERENT TYPES OF TRADITIONAL AGRICULTURAL BUILDINGS

Agricultural buildings evolved to house the main activities associated with different types of farms. They can broadly be categorised as:

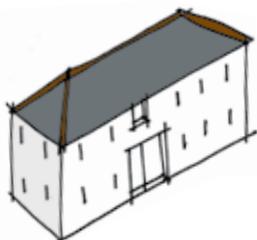
- **Storage:** such as barns, or cart sheds, or accommodation for farm machinery
- **Housing livestock:** cattle in byres courts, stabling for farm horses
- **Processing products:** dairy, horse gins, threshing barns

Each of these building types have characteristics which have arisen from the specific activities which they housed – their massing, proportions and the relationship of walls to windows are all slightly different. They were constructed by tradesmen using local stone, supplemented with materials manufactured or extracted from elsewhere - such as quarried stone, slate, clay, sawn timber, iron and lead. Some typical types of agricultural buildings include:



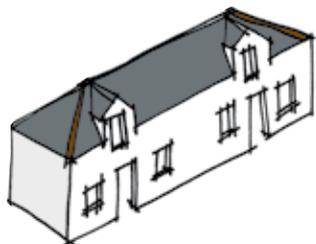
### Cattle sheds (byres)

Very common - a reflection of the importance of dairy\*/cattle farming in the area. These are long, low buildings constructed from stone and generally with hipped slated roofs, exposed roof trusses and earthen (sometimes cobbled) floors. Minimal openings with ventilation often provided by pipe vents (smaller circular openings formed by clay drainage pipes embedded through the wall).  
(\*The dairy itself was generally (but not always) attached to the farm house and did not form part of the range of steading buildings).



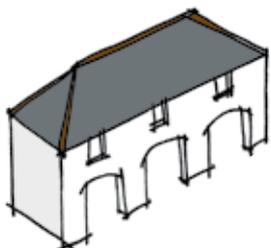
### Barn

Used for storing hay and straw and to prepare feed for livestock. Relatively high walls often with taller, double doors which allowed carts to enter the barn to unload inside. Ventilation was a priority and was provided by slits in the walls. Pole Barns and Dutch barns were open sided – often with timber or cast iron columns – and used for storing hay and/or machinery.



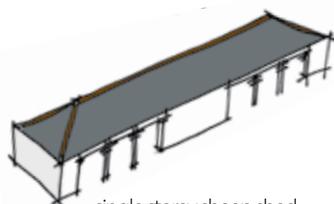
### Stables

Horses were essential, involved in many tasks on the farm - often reflected by their superior accommodation. Can have standardised dimensions - (4.8 metres wide by 2.8 metres high) and materials (plastered walls and cobbled floors). Larger estates can have more ostentatious stable blocks arranged around separate yards with coach houses, tack rooms and accommodation for grooms.



### Cart Shed

Built with bays to house a minimum of two carts (for smaller farms). Each bay was spaced to suit a cart (generally between 2.4 metres 3.0 metres to in width). Commonly open along one side to provide easy access for carts and machinery. Openings (sometimes arched) formed by cast iron, stone or brick piers and timber lintels. Sometimes cart sheds included a hayloft on the upper floor.



single storey sheep shed

### Other buildings

Includes bothies for labourers, turnip houses (an important source of fodder) piggeries, poultry houses, sheds to store machinery. Many of these buildings are extremely small in scale with narrow plans, small internal spaces and low roof heights.

existing planting retained and enhanced to provide shelter and integrate proposals into the landscape

individual and private garden to rear of properties

low-key extension features contemporary choice of timber cladding

entrances to properties through courtyard; yard has sympathetic landscaping to reflect ownership but retain open character



parking broken down into smaller areas

better development

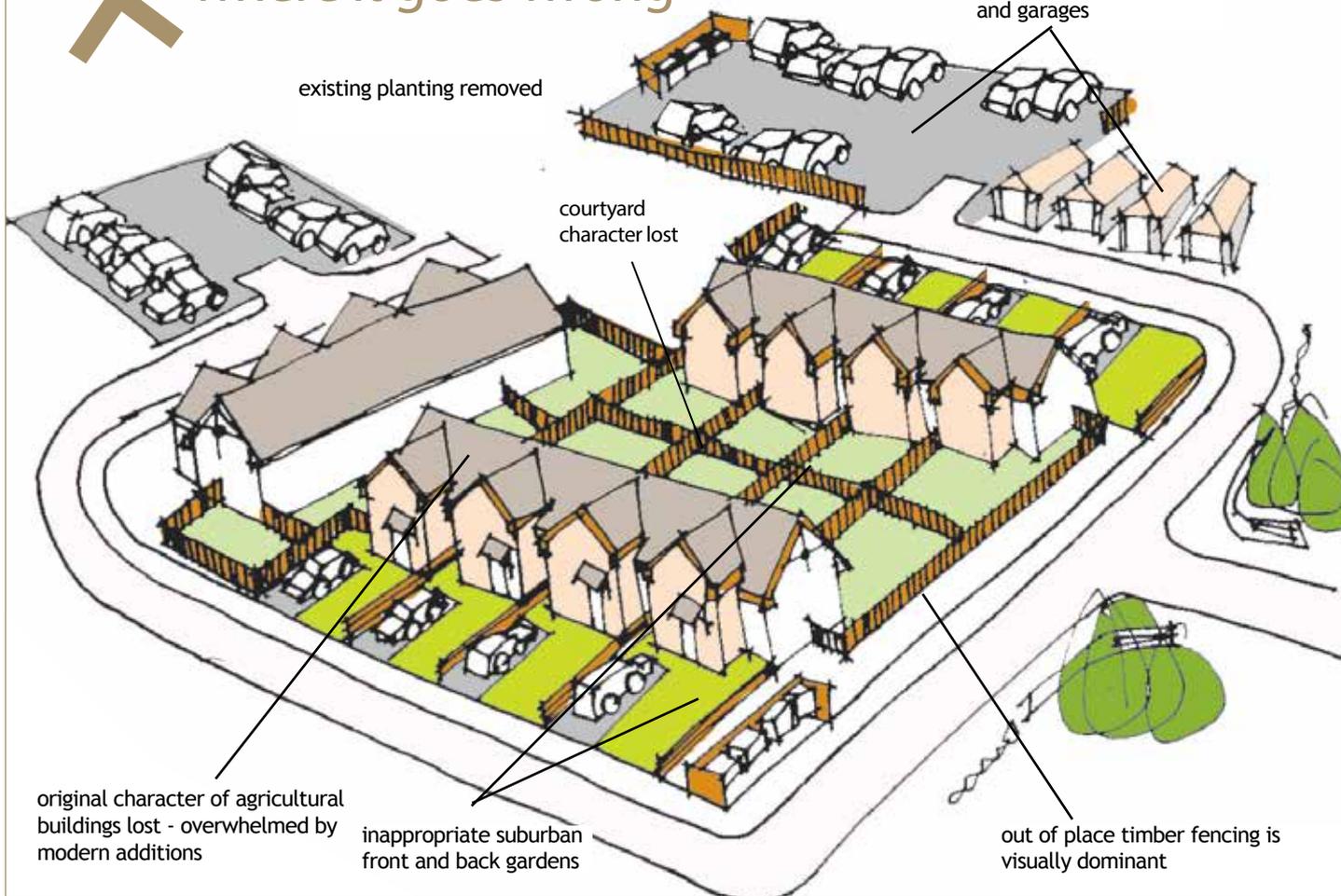


where it goes wrong

existing planting removed

prominent parking courts and garages

courtyard character lost



original character of agricultural buildings lost - overwhelmed by modern additions

inappropriate suburban front and back gardens

out of place timber fencing is visually dominant

## 3.3.2 DESIGN PRINCIPLES: MASSING AND PROPORTION

Traditional agricultural buildings can be converted to suit a wide range of uses, but conversion is challenging - especially when buildings are adapted to provide new homes.

Smaller openings associated with older properties reduce daylight and solar gain, and restrict views, but may provide interior privacy. Smaller dimensions restrict head heights, reduce room sizes and, together with steps at entrances, can restrict access for those with disabilities.

It can be difficult to design for modern lifestyles without extensively modifying the original building fabric. In the past, poor solutions have facilitated modernised interiors at the expense of the character of the existing building of which they have formed a part. Better solutions are possible but take careful thought as traditional agricultural buildings have a number of important qualities that should be retained:

- **A simple, narrow plan and small scale**

*'It may be particularly remarked, that the giving unnecessary breadth to the buildings adds materially to the expense, by increasing the dimensions of the timbers and adding to the size of the roofs.'*

**Loudon's "Encyclopaedia of Cottage, Farm and Villa Architecture"**

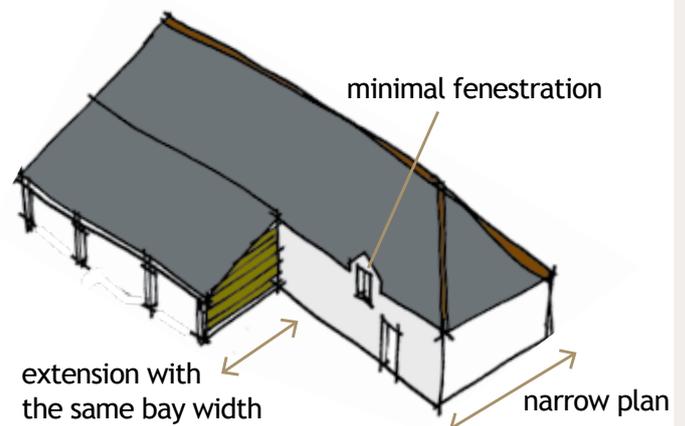
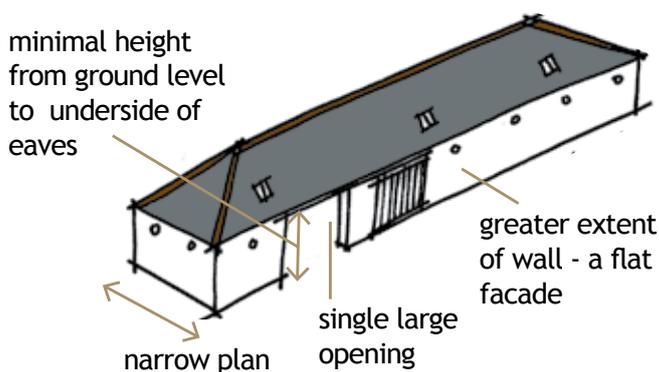
Although some agricultural buildings had a dual use as offices or bothies, they were not generally intended for human habitation. Most traditional agricultural buildings have a narrow plan (typically 4 to 6 metres overall depth) and minimal floor to ceiling heights - suited to keeping livestock and storing feedstuff, while reducing the cost of construction. They were generally single storey with lintels at eaves height and where a second storey was introduced it was often used for storage. Limited ceiling heights at upper levels no longer conform with current building standards for a minimum of around two metre floor to ceiling heights.

These proportions can make these types of buildings difficult to adapt to new uses, and when they are grouped around a courtyard, in a U or L shape, it is all too easy to end up with design proposals which includes excessive circulation corridors and very narrow rooms.

**Designers should therefore:**

- Avoid, wherever possible, radical and unsympathetic changes to the building's exterior to accommodate inappropriate expectations for interior layouts.
- Consider adapting plans to suit the existing building structure as far as possible, working within the constraints of the original building without any excessive alteration.
- Think about using more contemporary internal layouts in order to make best use of existing openings in external walls, and to minimise alteration to internal structural walls. For example, double height spaces can make the most of low floor to ceiling heights and increase the amount of light inside a building.

### typical narrow plan and small scale



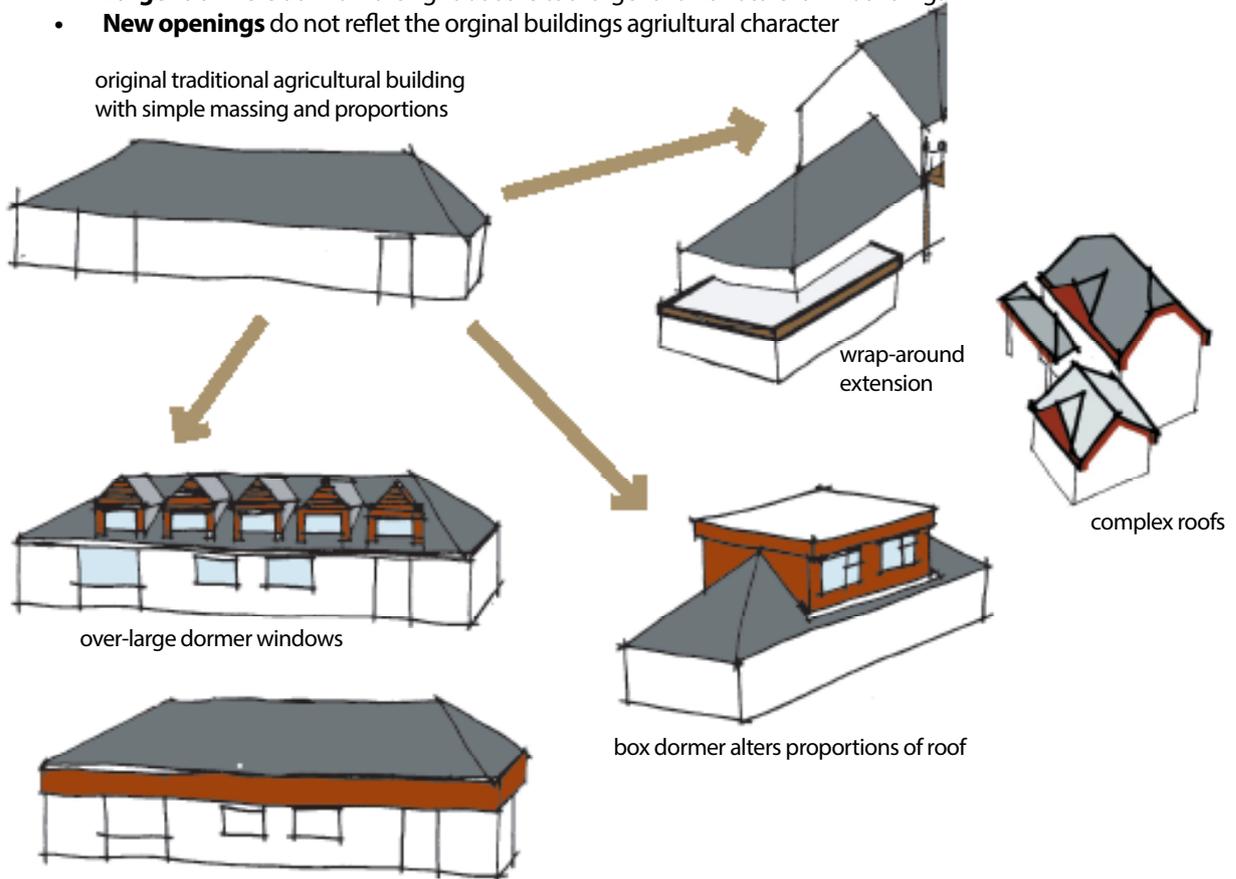


## where it goes wrong

Poor solutions have, in the past, facilitated the planning of building interiors at the expense of the character of the existing building of which they have formed a part:

- **The roof height has been raised by building up at the eaves** - fundamentally altering original proportions
- **Larger dormers** admit more light but are too large for small scale farm buildings
- **New openings** do not reflect the original buildings agricultural character

original traditional agricultural building with simple massing and proportions



## better development

This new extension uses sympathetic massing and proportions which are based upon a lean-to type of addition commonly associated with traditional agricultural buildings. It does not dominate or overwhelm the existing buildings beside it.

It uses traditional materials and craftsmanship and retains the original stonework and large openings as part of a new, more open, interior.



- **More solid wall than openings**

Traditional agricultural buildings tend to have few openings which are sized and located only where needed. The majority of these do not correspond to those commonly found in a dwelling. Often, all openings are concentrated within a courtyard, with walls facing outwards into fields left completely blank. Generally they are of two types:

- A larger doorway or bay designed to allow passage of a cart or larger farm machinery. Often these are the full height of ground floor. They either carry up to eaves level with a timber or stone lintel over, or sometimes have a flat or gently curved arch constructed from field stone or dressed stone.
- Minimal openings - often without glazing - located only where light is needed. These were often framed by dressed stone as it was difficult to provide a straight edge with rubble. Otherwise ventilation is provided using slits and pipe ventilators.

As a result, many traditional farm buildings have facades with a greater extent of wall to openings. Designers should aim to retain the same proportions, reusing existing openings in facades where possible. However, the interior of many traditional agricultural buildings can be dark, which can make them incompatible with modern lifestyles where good views and plenty of sunlight is important.

- **As far as possible, doors and windows should be located in openings which are already there . To achieve this, designers may have to plan internal arrangements of rooms to suit existing openings- which may result in non-standard internal layouts.**

- Sometimes existing openings may clash with new plans (for example in cart sheds larger bays may be too big, or elsewhere an existing door may now clash with a proposed partition). Designers should aim to address these kind of spaces in such a way that evidence of the existing opening can still be seen. Consider using glass, local timber cladding, or cladding with materials commonly associated with agricultural buildings (such as corrugated fibre cement sheeting, or metal cladding.) Render is not always the most appropriate solution.
- Where new openings are required, designers should consider locating them so that they complement the existing proportions and massing of traditional farm buildings. For example:
  - locating newer openings where they would traditionally expect to be found such as inside a courtyard, rather than facing outward into fields.
  - balancing larger areas of glazing against proportionately larger areas of wall and retaining flat, uniform facades.
  - creating larger windows which use the proportions of larger openings traditionally found at farmsteadings - such as cart house bays and barn doors. Larger areas of glazing generally look better when they are carried down to floor level.
  - Details - such as lintels and window dressings should be carefully considered and new proposals should be designed to complement existing construction details.

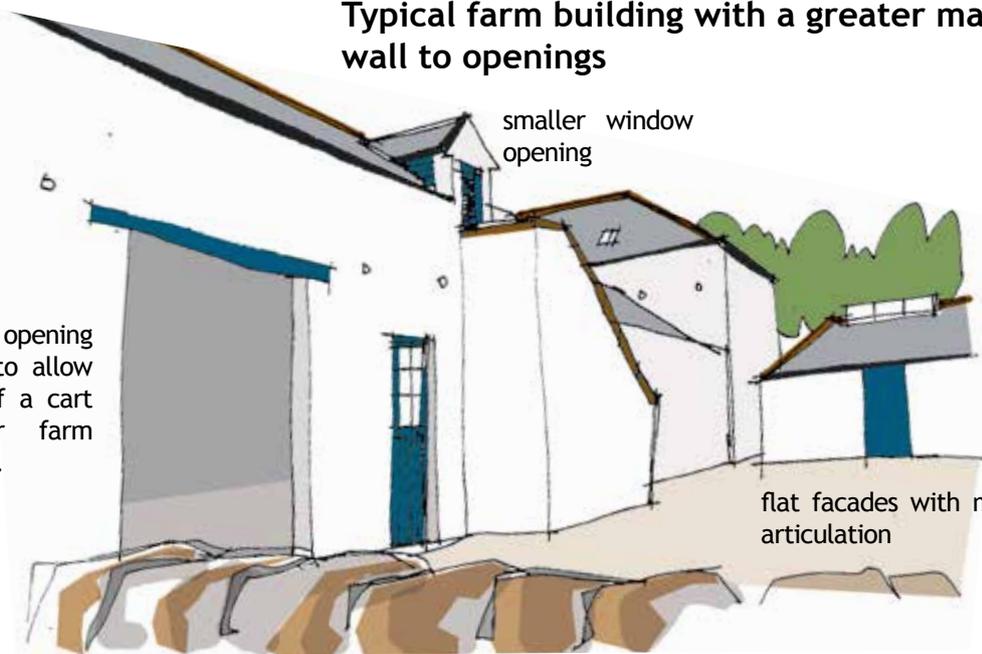
- **Solar Gain**

About 15% of space heating in an ordinary Scottish home comes from solar energy through walls and windows. Passive solar design tries to optimise the amount of energy that can be derived directly from the sun, by careful planning of buildings to collect the sun's heat, thus reducing the need for heating.

- The solid walls of traditional agricultural buildings have a high level of thermal mass. This allows the sun to be 'soaked up' during daylight hours and then released into the building at night – suitable thermal mass prevents overheating during the summer and avoids cold conditions during the winter.
- Consider, where possible, making the most of larger openings to the south and sizing new openings to the north so that they are smaller and openings to the south so that they are larger.

## Typical farm building with a greater mass of wall to openings

A larger opening designed to allow passage of a cart or larger farm machinery.



smaller window opening

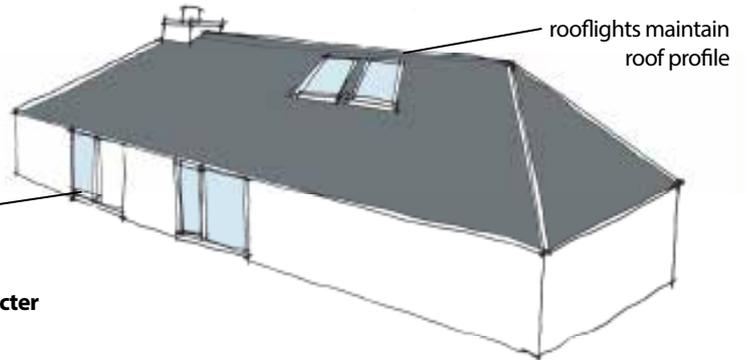
flat facades with minimal articulation

new openings respect proportions and maintain flat facade



**better development**  
steading retains its original character

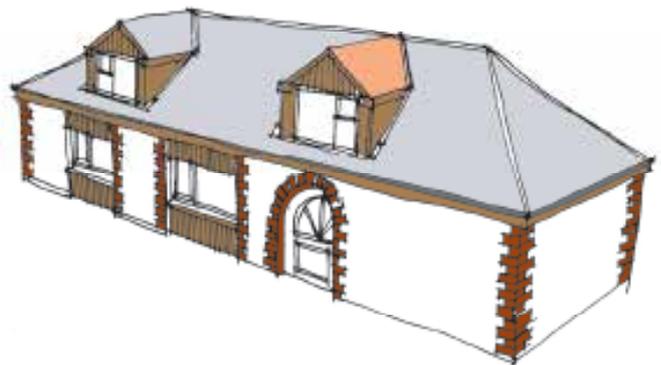
infill respects original opening rebate



rooflights maintain roof profile



**where it goes wrong**  
character lost



**Retaining proportions of existing openings**

Existing opening is fully glazed

Contrasting cladding material - for example timber - used to infill existing opening



### 3.3.3 DESIGN PRINCIPLES; EXTENSIONS AND NEW BUILDINGS

Although designing an exact copy of a good quality traditional building can ensure that an extension, or new building, is well integrated with an existing building, it is not necessarily the best solution for the building's occupants. The challenge for designers is therefore to design new additions to existing buildings which reconcile the requirements of a modern lifestyle with the need for integration into their context.

New buildings and extensions should complement every farm building's distinctive character. They can be opportunities for distinctive, contemporary architectural solutions. New additions do not necessarily have to unimaginatively defer to their older neighbours although they should respect them.

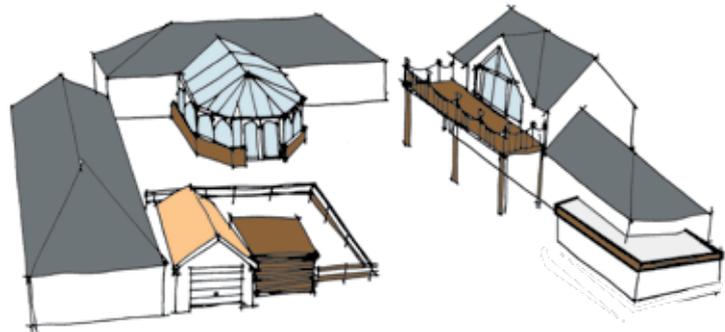
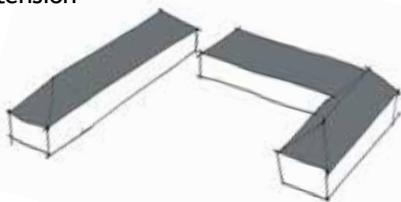
Successful, appropriate new development often has simple proportions and details, and designers should focus on the following:

- **Similar proportions (see previous section for more detail):** extensions sit comfortably with their neighbours if they adopt similar massing and proportions - steeper symmetrically pitched roofs and strong simple roof shapes, together with a simple long narrow plan and flat, minimally articulated facades with a greater extent of wall to openings.
- **Minimise scale:** As far as possible, keep ground to eaves heights as low as possible. Many successful extensions incorporate open-plan or spaces and open ceilings. Together with larger full height windows this can give the impression of spaciousness while retaining a smaller scale associated with traditional agricultural buildings.
- **Larger extensions and new buildings should be designed so that they do not dominate their landscape setting or neighbouring properties:** It is all too easy to design newer extensions which are significantly larger than their older, smaller, counterparts. If the massing of a larger extension can be broken-up in an informal way, its impact on its setting will be significantly reduced.
- **Conservatories:** although appropriate for other locations, standard modern conservatories are not a suitable addition to traditional farm buildings. Neither their massing or materials sit well in a rural location. Traditional rural houses often have conservatory spaces which are added as a "lean-to", and this is a much more appropriate model to use.

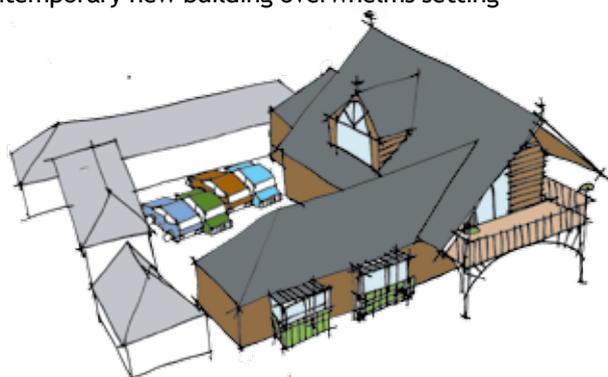
#### **X** where it goes wrong robust and simple agricultural character lost

Use of "off the shelf" components - conservatory, garage and shed

Typical steading before conversion and extension



Contemporary new building overwhelms setting



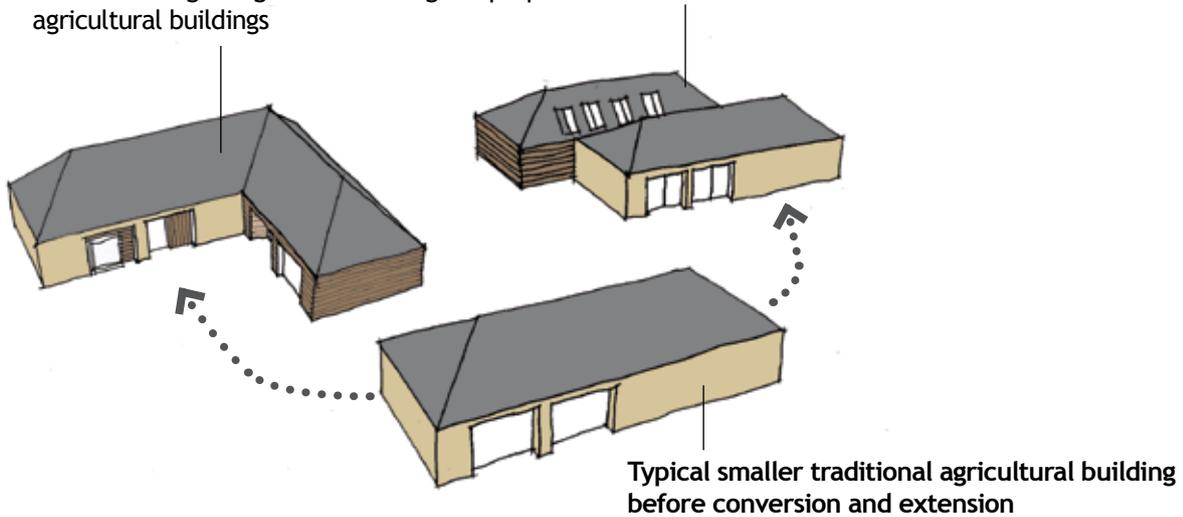
Overscaled new house: courtyard character lost



 **better development  
smaller extension**

These examples show extensions which have been located to extend the very narrow plan of a typical traditional farm building.

A different material identifies new elements (in this case timber cladding) while retaining recognisable massing and proportions associated with traditional agricultural buildings



 **better development  
larger extension**

Extensions use rural massing and proportions

Dormer windows are an extension of the existing wall

New openings continue to use the same scale and proportions as existing openings

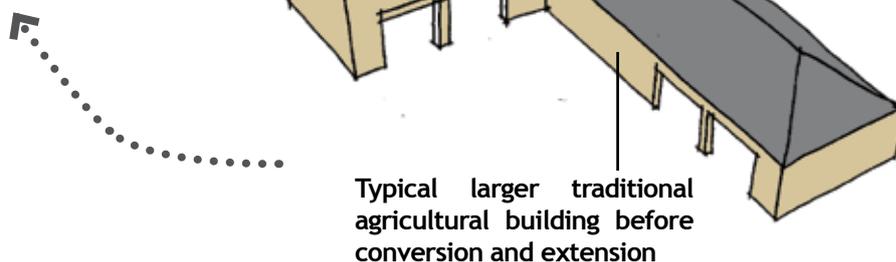
minimal windows in this location to provide the right balance of wall to window

new glazed sun room retains the same proportions

Separate building used for garage and storage linked to other buildings in the group to maintain enclosure for courtyard

garage hides parked cars from view

A different material identifies new elements while retaining massing and proportions associated with traditional farm buildings



## 4.0 RELATIONSHIP TO THE ENVIRONMENT

The design of spaces around traditional farm buildings can significantly impact on views across the landscape. Many existing groups of farm buildings sit directly within the landscape and are not isolated from it by gardens, access ways or parking. This very direct relationship is important and should be retained.

### 4.1 Outdoor spaces

Designers should aim to achieve an integrated relationship between the rural landscape and any new outside spaces by:

- **Retaining and consolidating existing planting** associated with older fields, hedgerows, dykes and gardens. Using native species for planting can be enormously helpful - where possible, retain existing mature trees, hedgerows, dykes and planting in order to maintain biodiversity. Traditional agricultural buildings can often have large ash/oak or other deciduous trees and associated orchard in close proximity to buildings.

Take into consideration the potential size and stature of existing and proposed trees to ensure they are appropriate to the setting, especially in relation to nearby buildings. Consider how new planting can be used to create shelter from the wind and reduce exposure and how views to and from access roads can be screened by new planting. When planting tree species take account of emerging guidance relating to tree pathogens and climate change (for example beech or sycamore may be appropriate even though they are not native to south west Scotland).

- **Creating sympathetic new garden spaces:** Avoid subdividing garden spaces into obviously smaller "suburban" back and front gardens as these smaller packages of land look out of place in the countryside. Where groups of traditional farm buildings are subdivided into a number of properties, consider retaining gardens as "common" ground. This will allow for a more naturalistic and appropriate landscape treatment.

- **Use appropriate boundary treatments:** Avoid ranch fencing and high timber slatted boundary fences. Instead, select boundary treatments which are commonly associated with a countryside setting, such as dry stone dykes, hedges, estate fencing and post & wire fencing.

- **Carefully consider the design and location of ancillary buildings and fuel storage:** Poorly designed and located stables, sheds and storage tanks for oil, LPG and coal stores can draw the eye away from the most sensitively designed extension or conversion, and have more impact on the landscape than any other new feature. Consider reusing ancillary buildings - for example storage or a garage could be incorporated as a "lean-to" and integrated with existing buildings. Prior to siting stables or other similar buildings consider their visual impact on their surroundings and provide substantial screening for recycling facilities.



dry stone dyke - Kirkcudbrightshire



minimal, rural entrance



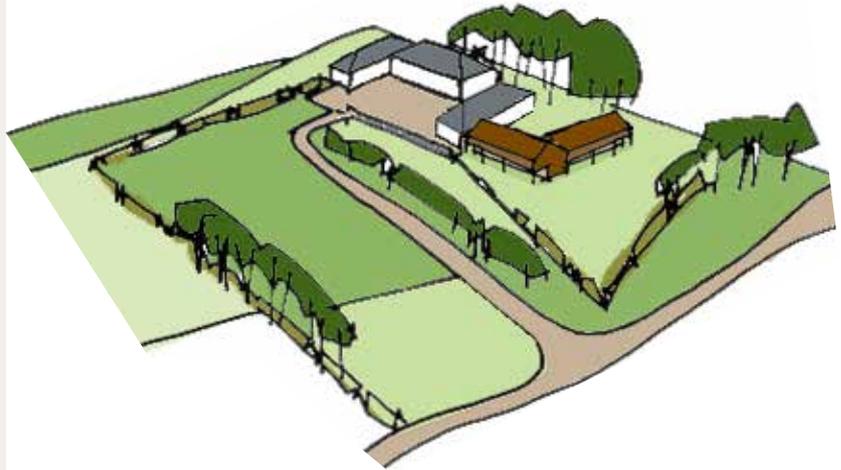
local materials and garden planting



simple unobtrusive post and wire fencing

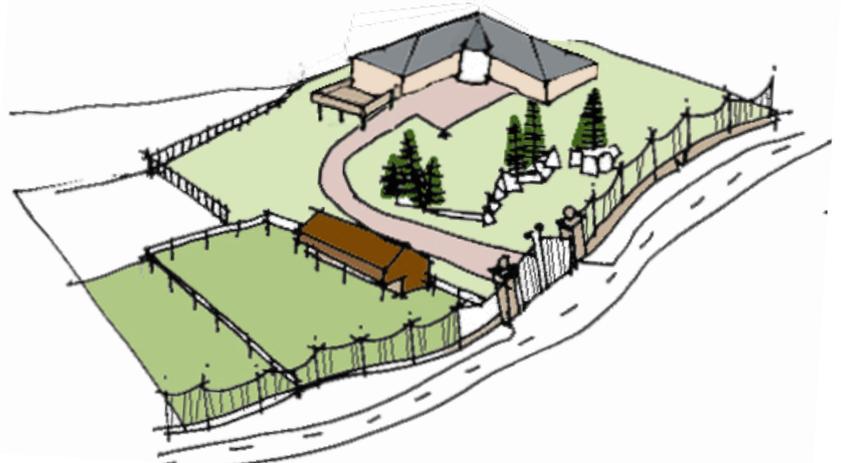
## ✓ better development

- Sheltered planting integrates built form with the landscape
- Low-key unobtrusive access road
- Hedges and planting are appropriate for their setting and link in with existing landscape features and field structure



## ✗ where it goes wrong

- Lack of shelter planting means building is overly prominent
- Prominent accessway & large areas of hardstanding
- Suburban boundary fencing to garden is out of place
- Planting is suburban and does not integrate with surrounding countryside



## 4.2 Parking

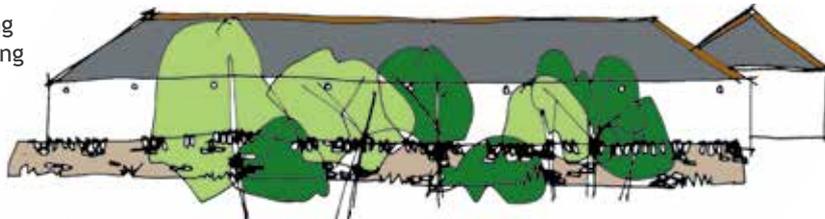
In the countryside, a car is essential, so designers need to “design -in” parking. Although a stand-alone car park may appear to be a satisfactory solution for a larger number of cars, it can easily be visually obtrusive from a significant distance. Where parking is needed for fewer cars, utilising existing courtyards solely for car parking can be visually dominant at close quarters.

In order to minimise the visual impact of car parking, designers need to take as much care when designing parking areas as they do when designing the details of each building’s conversion or extension. Successful parking should be:

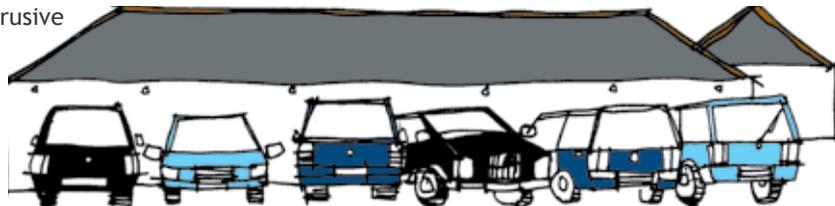
- **Located to minimise its impact.** Designers should consider key views to and from the development site, together with existing planting and topography, in order to determine where parking can be best screened from view using hedging, dry stone walls and local planting.
- **Broken up into smaller groups** with minimal access ways (3.7 metres width) linking them together.
- **Consider housing cars in garages converted from existing buildings** or within newer garages or shelters with an agricultural character constructed nearby.
- **Constructed of carefully chosen material:** for example, single houses can use locally sourced gravel for driveways; locally sourced recycled cobbles could be used for shared parking. The creation of large areas of tarmac parking should be avoided where possible.

Where accommodation is required for a larger number of cars, consider locating parking where it is least visible, breaking it up into a number of smaller areas screened by planting, buildings or boundary treatments. If possible, use some existing buildings for garage parking.

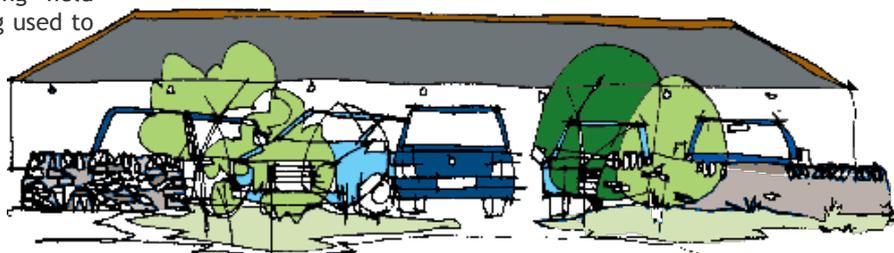
before conversion: existing field boundaries and planting in place



poor parking: visually obtrusive



better parking: existing field boundaries and planting used to screen cars





**poor parking solution:**  
remote car park is visually obtrusive and does not relate in any way to the redeveloped traditional agricultural buildings



**better parking** - smaller parking areas are screened by new dry stone walls or cars are housed within garages which have an agricultural character



**Kilmartin House:** cellular grass parking, landscaping and stone boundary walls all help to integrate parking into a landscaped courtyard beside converted former steadings



**from lhs clockwise;**  
stone flags,  
grasscrete for  
visitor parking,  
cobbled setts,  
contrasting use of  
materials to define  
spaces, planting at  
hard landscaping,  
cobble, scottish  
slate



## 4.3 Access

Access roads to traditional agricultural buildings are designated by Dumfries and Galloway Council as either:

**'Adopted' roads** where the Council is responsible for their upkeep (these roads will need to be constructed to the Council's own standards and specifications).

**OR**

**Private roads**, which are not maintained by the council and which do not need to be constructed to the same standards. Permissions will be needed to connect a new private access road to the public road network, and the Roads Department will need to consider if these new junctions can be located safely.

Access roads always need to be safe so even if the road is not adopted, Dumfries and Galloway Council Roads Department may ask for improvements to sightlines and radii at junctions, passing place and localised road widening.

**Access issues which need to be considered include:**

- **Access to fuel tanks and water treatment tanks:** vehicular access may be needed for periodic maintenance.
- **Turning Spaces:** Regardless of the nature of the access road serving the traditional agricultural building, there will be a requirement for a suitable turning space for vehicles. This will vary, dependent on the type of new development proposed so it is important to consult with the Council's Roads Engineers at an early stage to determine an appropriate level of provision.
- **Fire and Rescue Services:** Every building must be accessible to Fire and Rescue Services. Properties that are further than 45 metres from a public road must provide adequate turning facilities, and discussion with Buildings Standards should be held early in the design process to establish how this can be met.
- **As far as possible, external spaces should be accessible to visitors with a disability.** Gradients for paths should be carefully considered - steeper slopes will be difficult for a wheelchair user to negotiate. Parking spaces should be wide enough for a wheelchair user, or a parent with a pram to use comfortably. There should always be a suitably surfaced accessible path to properties which suits those with a disability.

## 4.4 Services

### Water Supply

**Mains supply:** It is important to check what water supply is available at an early stage. Even if a mains pipe is located close to the traditional agricultural building itself, there may not be sufficient capacity within the system to extend the mains supply further.

**Private water supplies:** Private water supplies are covered by the "Private Water Supplies (Scotland) Regulations 2006" and the supply will need to be treated before is safe to drink. Advice should therefore be sought from a suitably qualified and experienced professional such as an environmental health officer.

**Providing a new water supply:** The majority of new private water supplies in Dumfries and Galloway are taken from new boreholes which access water from aquifers deep below the ground. New boreholes require a license from SEPA; a hydrogeologist's report gives a good indication of geological conditions below ground, and enables borehole design to be properly specified.

**Rainwater can be "harvested" from roofs.** At its simplest it can be collected and used for watering plants, but there are also more sophisticated systems available which allow water to be collected in

a tank, pumped into the property and used as non-drinking water.

**Water supply for fire and rescue services:** there should always be an adequate supply of water to assist with fire and rescue operations. It is important to consult with the fire and rescue service early in the design process to establish how this can be met as storage tanks or reservoirs may need to be considered.

## Sewerage

Agricultural buildings are located in rural areas where mains drainage is not often available, so instead sewerage treatment is carried out on site – for example using a septic tank or biodisc. Environmental standards are constantly becoming more onerous and obtaining consents for these can become complex. It is therefore important to seek professional advice at an early stage

## Surface water

The most common method for disposing of surface water is by a soakaway. The soakaway should be separate from the soakaway serving a septic tank and be located a minimum of five metres from any building. Removing rain water quickly from the building is important. Careful consideration of the materials and siting of rainwater goods, such as gullies and fall pipes, are required to ensure they do not detract from the character of the building.

## Lighting

Standard lighting solutions associated with suburban or urban areas are not suitable for more rural areas because they not only look out of place but can be a source of light pollution. Safety and security is important in rural areas so consideration needs to be given to lighting of an appropriate standard, carefully located to minimise its impact.

Particular care must be taken with proposals in the Galloway Forest Dark Sky Park, which will need to comply with supplementary guidance on lighting in the designated area.

## Fuel

Fuel tanks should be screened from view and vehicle access will need to be considered. Wood fuel can occupy a significant amount of space, so storage should be carefully considered at the same time as other development.

## Carbon reduction: Micro Renewables

There is a very wide range of renewable technologies available which can be ideal for traditional farm buildings in remote locations where there is no existing mains supply. Because Dumfries and Galloway's traditional agricultural buildings are important, any new micro-renewable installation should be planned carefully so that it neither adversely impacts on its landscape setting, nor detracts from the traditional farm buildings itself. When planning the introduction of micro-renewable technology, consider:

- its impact on its surroundings - for example ground source heat pumps cannot be seen externally whereas air source heat pumps can be bulky and need screening. Freestanding equipment, located where it impacts on views, would not be acceptable.
- whether there are any additional requirements which will impact on the traditional farm building's setting - such as access for vehicles for maintenance purposes.
- its impact on the traditional farm buildings themselves: for example solar panels can be bulky and obtrusive – alternatives such as solar "tiles" are available which have significantly less visual impact. It might be possible to reuse smaller traditional farm buildings within a group to house renewables equipment but careful planning of cabling and pipework may also be required.
- communal services and systems - where a traditional agricultural building has been converted to provide a number of properties (for example a group of houses) the visual impact of renewables could be minimised and potentially installation costs reduced by design of a single, communal system to service the whole building or complex.

# 5.0 MATERIALS AND CONSTRUCTION DETAILS

## 5.1. Overview

*'...generally primary, unprocessed materials which were capable of being crafted, wrought or assembled, thereby revealing the skill of the tradesmen using them.'*

### **The Conversion of Redundant Farm Steadings to Other Uses: Andy Davey and Lesley Kerr**

The use of lime mortar underpinned changes in construction methods and building types at the beginning of the 17th century. It allowed builders to construct load bearing walls of two or even three storeys high, together with close coupled roofs, rather than cruck frame rafters. By 1812 most buildings were of stone and walls were now built as "regularly dimensioned structural elements" in the region of 450 – 600 mm thick.

Many traditional farm buildings feature local 'field stone' as rubble walling with wide joints and pinnings, together with dressed stone to shape corners, windows and door surrounds sourced from local quarries. Dumfries and Galloway's local geology is very varied and the colour of local stone ranges from red through dark grey, light grey to deep pink and brown.

Occasionally the walls of agricultural buildings are timber (such as pole barns and timber sheds) and sometime larger traditional agricultural buildings at Estate or Home farms use other novel materials such as brick.

Internal walls were generally unfinished and a coat of limewash was applied to the unfinished face of the rubble wall every year or two. Plaster was applied to some areas, for example dairies where a clean finish was needed, or stables which had an economic importance.

Most traditional farm buildings have slated roofs, often with hipped ends - with exposed rafters internally. Eaves details tend to be very simple, often without guttering, overhang or soffit and there tends to be some local variation in the way in which materials are used at ridges and eaves.

## 5.2 Design Principles: materials and construction details

### Masonry walls of existing properties should:

**Be approached with caution:** rubble walls can be degraded by movement and water penetration, and often have minimal foundations. Carrying out limited demolitions or excavating original floors can lead to partial or complete collapse of a rubble wall.

**Be kept in good repair:** Localised repairs should be limited to those which are absolutely necessary and should use appropriate, local materials.

**Lime mortar should be used to re-point joints in existing stonework** as it allows traditionally constructed buildings to 'breathe' releasing moisture to outside. Cement mortar will damage stonework as it is inflexible and impervious to moisture.

**Walls are unlikely to have any damp proofing or damp proof course:** so consider a well-thought through, holistic approach to good external drainage, appropriate ground levels and proper ventilation as well as any new damp proofing measures.

**Be finished appropriately:** Most traditional farm buildings were limewashed - this should be considered as an alternative to stone cleaning. Traditionally, limewash was carried out in the spring every year or two and used slaked lime with tallow as a binder - this has now been replaced by powdered hydrated lime or cement paint. There is some variation in colour - for example, traditional agricultural buildings in the Mull of Galloway were offset by farmhouses finished in a pale ochre coloured wash.

### Masonry walls of existing properties should not introduce:

**Impervious construction methods such as cement-based mortar and render.** Cement mortars tend to have a consistent and 'closed' pore structure that traps water rather than allowing a building to breathe. Trapped moisture will expand if subjected to freezing conditions, and mortars may ultimately fail, often causing damage to the surrounding masonry in the process.

**Inappropriate modern standardised building additions and elements** such as proprietary bay windows, porches and conservatories.



north east; white painted finish



south east; dressed stone at corners & openings  
fieldstone - buff/honey brown



Kelton; red sandstone



Jordieland; light grey pink field stone forms rubble wall, note new concrete lintol above door opening; no ashlar quoins



near Kelton; rubble wall with pinning (*the use of smaller stones, or pinnings, to "fix" larger stones into the wall*) and contrasting dressed surrounds at windows.



Kirkcudbrightshire; dark grey stone and light grey margins forms rubble wall, no ashlar or dressed stone at corners



Thornhill; residual limewash on red sandstone



Boatcroft: painted finish over dark grey/red stone brick decorative feature below eaves



Kelton stables: use of brick with feature eaves



Kelton stables: use of brick with feature bricks at window surrounds

## 5.2 Design Principles: materials and construction details

Any changes to the roofs of existing properties, and new roofs at extensions and any new buildings should:

- **Retain the simple proportions and roof shapes of the original, existing buildings** including the existing roof pitch, gable treatment, ridge lines/heights and eaves.
- **Use an appropriate type of cladding:** Most older farm buildings in Dumfries and Galloway have roofs clad with slate . Alternatively, consider simple roofing materials associated with agricultural buildings such as metal roofing (steel, aluminium, corrugated iron), or fibre cement sheeting.
- **Utilise materials and details which minimise any adverse visual impact of compliance with current building standards.** Roofs now need to be insulated whereas in the past they did not. The location and type of insulation should be carefully considered so that it does not affect the appearance of the roof. Consider, how to best integrate ventilation into simple closed eaves and ridge details in order to avoid overly clumsy and complex detailing. If possible, group ventilation and exhaust pipework in the least obvious part of the roof. Where a flue is needed (for example to service a new wood burning stove) ensure it is as unobtrusive as possible.
- **Where roof spaces are occupied, minimise any adverse visual impact of compliance of new windows in the roof** by either using proprietary double glazed conservation rooflights or by designing appropriate dormer windows which are the same size and scale as their older traditional counterparts (these work as best as a continuation of the wallhead.)

Designers should carefully consider the use of:

Materials which are not normally associated with rural locations and materials which are associated with other building types, such as:

- standard solutions designed for housing (such as heavy concrete interlocking tiles).
- inappropriate proprietary flashings and finishings at eaves, ridges and verges.
- contemporary box eaves which are not compatible with traditional farm buildings.



these standard materials and components are more suitable for suburban location and are not compatible with traditional agricultural buildings



typical roof structures

typical Dumfries and Galloway materials



graduated slate



plain eaves & verge detail with no gutter



lichen on roof



zinc flashing



sandstone ridge tile



slates extend behind cope



cast iron rooflight



ventilators at ridge



corrugated iron

## 5.2 Design Principles: materials and construction details

### Doors and windows

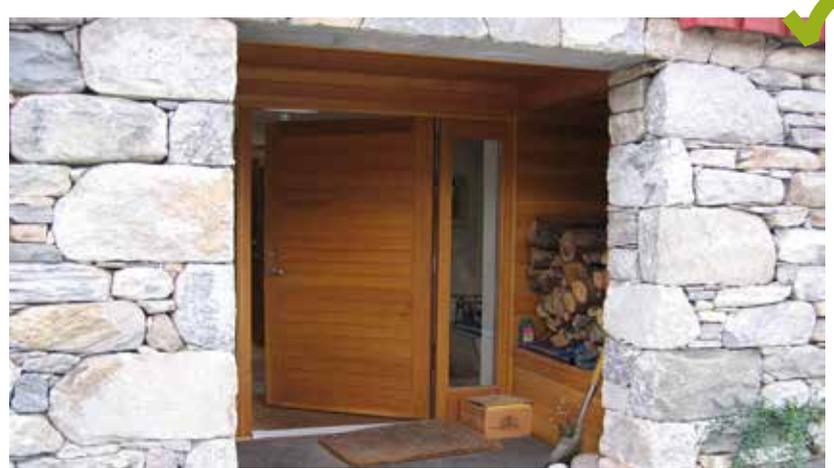
Generally, simple doors were timber boarded with some panel doors used on model farms. Windows were timber sash and case. Most exposed timber was painted with a flat or semi flat finish. Estates were often associated with a specific paint colour and in some cases this was quite bright.

#### **New external openings, doors and windows within conversions, extensions and new buildings should:**

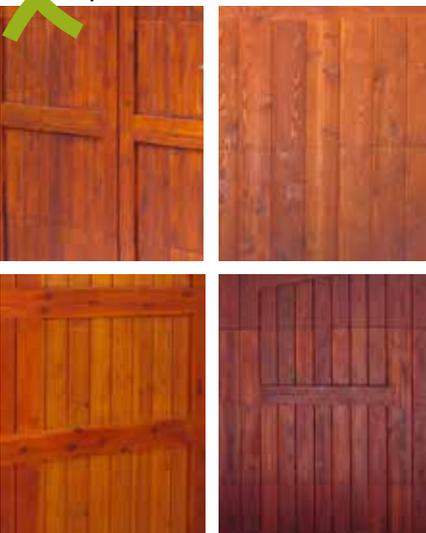
- Balance larger areas of glazing with proportionately larger areas of wall , retaining flat, uniform facades.
- Details - such as lintels and window dressings should be designed to complement existing features. Developers should avoid the use of "standard" windows and doors.
- Traditionally windows were made of timber and this tradition should be respected - UPVC and aluminium windows should be avoided. Using high performance timber windows provides good weather and air tightness, and reduced heat loss. Rural joinery was traditionally finished with often quite brightly coloured paint and developers should consider continuing this tradition.

#### **New external openings, doors and windows within conversions should:**

- As far as possible be located in existing openings - with a minimum of additional interventions to the existing structure.
- Retain the proportions of larger openings traditionally found at groups of traditional agricultural buildings - such as cart house bays and barn doors. If necessary, consider infilling these types of openings so that evidence of the existing opening can still be seen - using timber or other contrasting cladding.
- Retain the traditional roof profile by avoiding rooflights that sit proud of slates and consider the use of conservation grade rooflights.



✗ poor stain colours for timber



✗ unsuitable components



## 5.2 Design Principles: materials and construction details

New buildings and extensions can take their cue for material choices from:

**Recurring materials in the area's local palette.** For instance, these could include rubble stone with painted and/or dressed window surrounds, slated roof, timber windows.

**OR**

**Designers should carefully select sustainable, contemporary materials.** Dumfries and Galloway's traditional agricultural buildings have resulted from the careful and considered use of the best materials and technology available when they were constructed. Developers and designers can continue to build in the same way, addressing today's concerns through the choice of appropriate materials which are sustainable in the long term.

Provided that they are located sensitively and share the same massing, scale and proportions as the buildings of which they form a part, extensions and new buildings can be an opportunity to use contemporary, sustainable materials. **Material choices should reflect the character of the original group of traditional buildings, and their use should be informed by an understanding of what makes each farm building locally distinctive.**

To be successful, proposals need to be developed by a skillful designer and of high quality. Suitable material choices could include:

- corrugated fibre cement sheeting
- metal sheet cladding and roofing - such as zinc and lead
- fibre cement panels
- timber cladding

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

- 1. Locally sourced scottish larch used as cladding
- 2, 6, 11, 16. Timber cladding
- 3,10, 14. Painted timber cladding and metal (zinc) roof
- 4, 8. Fibre cement sheeting - a material associated with agricultural buildings - here used for a dwelling
- 5. Timber structure, metal roofing
- 7. Simple verge detail
- 13. Timber windows and cladding
- 9,15. Shingles, timber window eternit cladding
- 12. Reclaimed stone and new timber cladding



## 5.2 Design Principles: materials and construction details

### Construction technologies

**Compliance with building standards can be complex and successful resolution of issues is best achieved through dialogue during the design process - between Building Standards, Planning Development Management, the developer and their agent. Developers are advised in all cases to take advice from a professional with appropriate skills and expertise.**

The majority of traditional agricultural buildings in an unimproved condition are comprised of a very basic “shell” of unlined rubble walls with ventilation openings and pitched, slated roofs. Where these are converted to a different use, problem areas can potentially arise as a result of compliance with modern building standards. These can include:

**Internal condensation resulting from occupation change:** Changing traditional farm buildings from well ventilated, draughty buildings to properties with improved insulation and air-tightness can reduce internal natural ventilation to below acceptable levels. Living conditions can become uncomfortable because of increased condensation and building materials can also deteriorate.

**Energy reduction measures impact on room sizes:** Adding insulation to the internal surfaces of external walls can have a significant effect on the size of internal spaces, and may be unacceptable. Overcladding external walls with external insulation system will mean a loss of character and local distinctiveness.

**Heating:** Traditional agricultural buildings were not often heated and their building fabric has usually reached a stable moisture balance that reflects their unheated status. If a new heating system is installed the building fabric can begin to dry out rapidly - the resulting shrinkage and cracking can spoil internal finishes and can damage building materials.

**Noise between dwellings:** existing walls are often used as separating walls between different properties but will vary in terms of their design and construction. If standard details are applied, their sound resistance will not be the same so it is recommended that developers determine if input will be needed from an Acoustics Consultant at an early stage.

**In order to avoid these problem areas, designers need to consider materials and component choices holistically, rather than thinking of them as a series of separate elements that operate independently of each other.** (For example, the existing building fabric, thermal insulation, heating and ventilation must be considered together, as they all interact with each other). **Because of this, there is no “standard” solution which can be applied to the fabric of a traditional building to arrive at compliance with the Building Standards.**

The Building Standards Division of the Scottish Government recognises that flexibility is needed in order to allow a sensitive approach to the conversion of traditional buildings, so that they can be adapted in a way that respects their character and that of their surroundings. Together with Historic Scotland they have developed guidance for those redeveloping traditional buildings – the *Historic Scotland Guide for Practitioners: Conversion of Traditional Buildings Application of the Scottish Building Regulations (Part I: Principles and Practice and Part II: Application of the Building Standards)*. Although this Guide for Practitioners is very comprehensive it was compiled in 2004; recent Buildings Standards recognise this and have been updated to include requirements for traditional buildings.

## 6.0 CONTEMPORARY EXEMPLAR CONVERSIONS



### single home; Clachan, near Borgue

- existing massing and materials retained
- courtyard redeveloped into stunning wildflower garden
- windows and doors formed from simple openings with timber lintels over
- no fenestration where steading faces onto road
- existing drystone dykes repaired and replaced



### single home; Ardchatten

- New timber extension has metal clad roof
- Reuse of existing farm buildings
- Barn retains existing openings; its setting is appropriate for its rural location and it has a metal clad roof.



# Contemporary exemplar architectural solutions

## multiple homes ; Jordieland Steading

- Traditional agricultural building converted into three new homes
- Traditional local detail at gable retained
- Simple "lean-to" new porch uses local materials
- Good quality hard landscaping
- Low level external lighting
- Parking screened by buildings



# Contemporary exemplar architectural solutions

## multiple homes; Cuthill, Kinross

- Nineteen houses have been formed from existing farm buildings, centered around three courtyards.
- This development provides private gardens, landscape courtyards, a timber children's play area, a football pitch and obstacle course, a willow walk leading to a woodland picnic area
- A range of accommodation provides facilities for families, young couples & those considering retirement.



## multiple homes ; Colgrain Steading

- Large windows/openings sympathetically integrated into existing building
- Rooflights minimise use of dormers
- Dormers are of appropriate scale
- Good quality boundary wall treatment and hard landscaping
- Low level external lighting
- Garaging for cars as farm building type



# Contemporary exemplar architectural solutions

## community use; Museum at Kilmartin

Existing stables, cartshed and other buildings have been carefully converted into a new Museum

- new green oak conservatory added as “lean-to” to existing buildings
- the character of existing external spaces has been carefully retained
- traditional and eco-friendly building materials used



